

DISSERTATION ON
“ASSESS THE EFFECTIVENESS OF ACTIVITY INTERVENTION ON
MENTAL HEALTH OF OLDER ADULTS LIVING IN OLD AGE HOME,
CHENGALPATTU-02”

M.SC (NURSING) DEGREE EXAMINATION

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Certificate

This is to certify that this dissertation titled **“ASSESS THE EFFECTIVENESS OF ACTIVITY INTERVENTION ON MENTAL HEALTH OF OLDER ADULTS LIVING IN OLD AGE HOME, CHENGALPATTU-02”**

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You have been faithful to all generations”*

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ABSTRACT

Elderly people need love, affection, care and recognition to foster their mental health. These aspects are deprived when they stay at old age home, which in-turn makes them prone to mental morbidity. Studies have proved that regular activities improve the emotional status of the individual. Hence this study aimed to assess the effectiveness of activity intervention on mental health of older adults living in old age home. The over all objective of the study was to find out the mental health of older adults before and after scheduled activity intervention. The conceptual framework adopted for this study was Modified Wiedenbach's helping art of clinical nursing theory (1964). Randomly selected older adults (n= 60) mental health was assessed with Self Reporting Questionnaire before and scheduled activities were given for a period of four weeks for completion of the performance. After four weeks post-intervention mental health score was collected. The post intervention mental health score analysed by student paired 't'test revealed significant improvement ($p=0.001$) in their mental health score. The percentage difference in mental health score of 48.7% with 98% confidence interval showed the effectiveness of activity intervention. The above findings revealed that activities are beneficial for improving mental health of the elderly.

INDEX

Chapter No	Title	Page No
I.	INTRODUCTION 1.1 Need for the study 1.2 Statement of the problem 1.3 Objectives 1.4 Operational definitions 1.5 Assumption 1.6 Hypothesis 1.7 Delimitation	1-8
II.	REVIEW OF LITERATURE 2.1 Review of related studies 2.2 Conceptual framework	9-19
III.	RESEARCH METHODOLOGY 3.1 Research approach and Design 3.2 Variables 3.3 Setting of the study 3.4 Population 3.5 Sample 3.5.1 Sample size 3.5.2 Sampling technique	20-26

	3.5.3 Criteria for sample selection 3.6 Tools used for Data Collection 3.7 Description of the Tools and Scoring technique 3.8 Content Validity 3.9 Pilot study 3.10 Reliability 3.11 Data Collection 3.12 Plan for analysis of data 3.13 Protection of Human Subjects 3.14 Schematic representation of the study	
IV.	DATA ANALYSIS AND INTERPRETATION	28-47
V.	DISCUSSION	52-55
VI.	SUMMARY, CONCLUSION, IMPLICATION AND RECOMMENDATIONS 6.1 Summary 6.2 Major findings of the study 6.3 Conclusion 6.4 Implications 6.5 Recommendation 6.6 Merits of the study 6.7 Limitations	56-62
	BIBLIOGRAPHY	
	APPENDICES	

LIST OF TABLES

Table No	Title	Page No
4.1	Demographic variables of the respondents	29
4.2	Pre-intervention mental health score of older adults	40
4.3	Post-intervention mental health score of older adults	41
4.4	Effectiveness of activity intervention on mental health	44
4.5	Percentage Association of pretest and posttest mental health score	45
4.6	Association between post-intervention mental health score and the demographic variables	46

LIST OF FIGURES

Figure No	Title
2.1	Schematic representation of conceptual framework for the study
3.1	Schematic representation of the study
4.1	Age distribution of the respondents
4.2	Gender distribution of the respondents
4.3	Distribution of respondents based on their religion
4.4	Distribution of respondents based on their education
4.5	Distribution of respondents based on their marital status
4.6	Distribution of respondents based on their number of off-springs
4.7	Distribution of respondents based on their duration of stay in old age home
4.8	Distribution of respondents based on their mode of joining old age home
4.9	Distribution of respondents based on their interested recreational activities
4.10	Comparison of pretest and posttest mental health score
4.11	Comparison of pretest and posttest level of mental health
4.12	Association between posttest level of mental health and age
4.13	Association between posttest level of mental health and marital status
4.14	Association between posttest level of mental health and duration of stay in old age home
4.15	Association between posttest level of mental health and mode of joining in old age home

LIST OF APPENDICES

S.No	Title
A.	Study Tool
B.	Certificate of approval by Ethical Committee
C.	Letter seeking permission for conducting the study
D.	Certificate of Content Validity
E.	Informed Consent

Chapter I

Introduction

I truly believe that age -- if you're healthy -- age is just a number.

“Let’s add live to their years.”- HUGH HEFNER

Demographic aging is a global phenomenon. In the words of Seneca; ‘Old age is an incurable disease’. Similarly old age cannot be healed but it can be protected, promoted and extended if the care givers have enough interest to do so. Therefore old age should be regarded as a normal, inevitable, biological phenomenon. It was estimated that by 2025, the world's population is expected to include more than 830 million people at an age of 65. **Aging** is a syndrome of changes that are deleterious, progressive, universal and thus far irreversible.

Aging is an important part of all human societies that reflects the biological cultural and social conventions. Depending on cultural and personal philosophy, ageing can be seen as an undesirable phenomenon, reducing beauty and bringing one closer to death or as an accumulation of wisdom, mark of survival, and a status worthy of respect. In many situations aging is considered as a numerical aspect. Whereas others find the same as a stage in life that one has reached in the course of life.

The percentage of the population more than 65 years of age group will be highest in developed countries, but the absolute number will be higher in developing countries. Developing countries such as China and India have the largest total population, and will continue to have the largest absolute number of elderly people

With a comparatively young population, India is still poised to become home to the second largest number of older persons in the world. As per 2011 census the total population of India has been classified into the following based on their age structure:

60-64 years:	63.6% (male 381,446,079/female 359,802,209)
65-over:	5.3% (male 29,364,920/female 32,591,030)

(2011- Indian statistical report.com)

Today there are 77 million old people in India. This number is likely to rise to 177 million by 2025 and it has been projected that by the year 2050, the number of elderly people would rise to about 324 million.

Old age is a stage of life, where one needs to learn certain things afresh and get hold of new skills, mind-sets and socialization norms. Age is an issue of mind over matter. To complete the phenomenon of aging successfully an individual should possess low probability of disease, high cognitive and physical functioning capacity with active engagement in life. These components should be sustained to maintain a complete life during later years.

It is essential for the older adults to maintain good mental health. Older adults achieve the optimal level of satisfaction when they feel that the domains like marriage, income-related work, children, friendship and social contacts, hobbies, community service activities, religion and recreation/sports have been successfully completed.

Unfortunately Old Age has now become a prevalent social problem in our society. In our modern society, where money is the scale of everything, the old age people are measured as an economic liability and a social burden. In addition, old age is inevitable and thus of concern to each of us. Moreover they are at risk of developing following problems.

Mental Health Problems of Old Age people

Old age brings about future shock. Senior citizen finds himself out of phase with the younger generations of children and grandchildren. Therefore a hazardous trend can get started toward hypercriticism. They experience very little real fulfillment or satisfaction in life, and their readjustment is not easy. Their need to lead a happy life ends in vain due to the aging process and the criticism shown by their own off-springs.

There is habitually a lack of self-confidence in old age, when the old aged people cannot take care of themselves monetarily. Their children are in the chief of their lives and repeatedly the children's plans do not include them. Old age bring a lack of ability to concentrate, forgetfulness, inability to speak, to hear, to see etc. So the old individual gets used to sitting in a chair as pensiveness, vegetating, saying nothing.

Impaired memory, rigid outlook and resistance to change are some of the mental changes in the elderly. Reduced income leads to a fall in the living standards of the elderly; it does have mental and social consequences. Elderly people are highly prone to mental morbidities due to ageing of the brain, problems associated with physical health, cerebral pathology, socio-economic factors such as breakdown of the family support systems, and decrease in economic independence.

Emotional Disorder arises as a result of social maladjustments and physiological changes. Failure to adapt with family results in bitterness, inner withdrawal, depression, weariness of life which in turn contributes to the feelings of hopelessness, helplessness, loss of pleasure in day to day life, irritability, lack of interest in personal care and even suicide.

1.1 NEED FOR THE STUDY:

Prevalence of Mental Morbidity in the Elderly:

Indian epidemiological studies revealed the prevalence of mental morbidity among elderly people. The rates of mental morbidity was estimated to be 349/1000 population among people above 65 years of age (Ramachandran et al 1979) and 89/1000 among those above 60 years of age (Venkata Rao 1983) which include mental problems like depression and loneliness leading to mental morbidity. In the west people aged above 65 are prone to get mental morbidity at the rate of 263/1000 (Kay et al) and 193/1000 (Copeland et al 1987)

The traditional Indian concept of extended *families* is getting vanished day by day due to socio-cultural changes and industrialization. This paved the way to the rise in nuclear families by abandoning the age old parents. Neglect is the most common form of abuse towards elders at 48.7% followed by emotional, financial and physical abuse.

Younger generation feel it difficult to look after their parents amidst of their busy schedule in their job and personal commitments. They consider their age old parents as a burden and hardly spend time with them by forgetting that life is a cycle and they also have a chance to be in the similar position in future. Due to these above mentioned reasons the concept of old age home is on ascend. Further people living in old age home are losing interest in their life and prone to become mentally unstable.

Prevalence of old age home

Old age homes were alien in concept and elder abuse was considered a Western problem but it is on ascend in our country nowadays as life expectancy has increased from 41 years in 1951 to 64 years in 2000. Today hundreds of old age homes have sprung up in India. Neglecting the parents has become a big issue, which made the Indian government to pass "*The maintenance and welfare of parents and senior citizens bill 2006*", which makes it imperative for adult children to look after their parents.

Moreover there are 728 Old Age Homes in India. Detailed information about 547 of these is available. Out of these, 325 homes are free of cost while 95 old age homes are on pay and stay basis, 116 homes have both free as well as pay and stay facilities and 11 homes have no information.

A total of 278 old age homes all over the country are available for the sick and 101 homes are exclusively for women. Kerala has 124 old age homes which is the maximum in any state. **(World Health Organization Report 2010)**

Role of families as a social safety net for the elderly is eroding in this fast living society. Moreover many elderly people are voluntarily leaving from the families to avoid extra burden for their lovable children. Elders in the family are definitely an asset. It is they who can impart the much needed ethical values and code of conduct to the younger generation.

Elderly people need love, affection, care and recognition. These aspects are deprived when they stay at old age home. They become wounded internally and are prone to get depression and other mental morbidities.

Effect of Activities on Mental Health

Several studies have proved the effect of activities in promoting mental health of the elderly. Regular activities not only improve their emotional stability but also beneficial for improving their quality of life and successful aging {*Penninx et al (2003)*; *Babyak et al. (2006)*}

Hence the researcher have selected the following statement to improvise the mental health of older adults by providing activity interventions as scheduled in following segments.

SCHEDULE OF ACTIVITY INTERVENTIONS FOR OLDER ADULTS:

Sl.no	Criteria	Activities
1.	Physical exercise	➤ Simple range of motion exercise
2.	Diversional activity	➤ Solving the simple puzzles ➤ Creative drawings ➤ Growing a sapling
3.	Relaxational activity	➤ Breathing exercises ➤ Reading newspapers
4.	Small group activity	➤ Group discussion ➤ Simple indoor games

1.2 STATEMENT OF THE PROBLEM:

Assess the Effectiveness of activity intervention on mental health of older adults in old age home.

1.3 OBJECTIVES:

- Assess the level of mental health among older adults in old age home before activity intervention
- Assess the level of mental health among older adults in old age home after activity intervention
- Find out the effectiveness of activity intervention on level of mental health among older adults
- Associate the selected socio-demographic variables with the mental health of older adults in old age home

1.4 OPERATIONAL DEFINITIONS

a. Effectiveness:

It refers to the improvement in mental health of older adults as measured by Self Reporting Questionnaire

b. Activity intervention:

It refers to the activities like simple range of motion exercises, group discussion, simple indoor games, solving puzzles, growing a sapling, reading newspaper, creative drawings

c. Older adults:

People belonging to the age group of 60 years and above

d. Mental health:

It refers to the mental stability of older adults as measured by self reporting questionnaire.

e. Old Age Home:

The institution where the old age people are living together to spend their rest of the life time

1.5 ASSUMPTION:

- Activities will improve the mental health of older adults
- Activity intervention will reduce the feelings of loneliness among older adults

1.6 HYPOTHESIS:

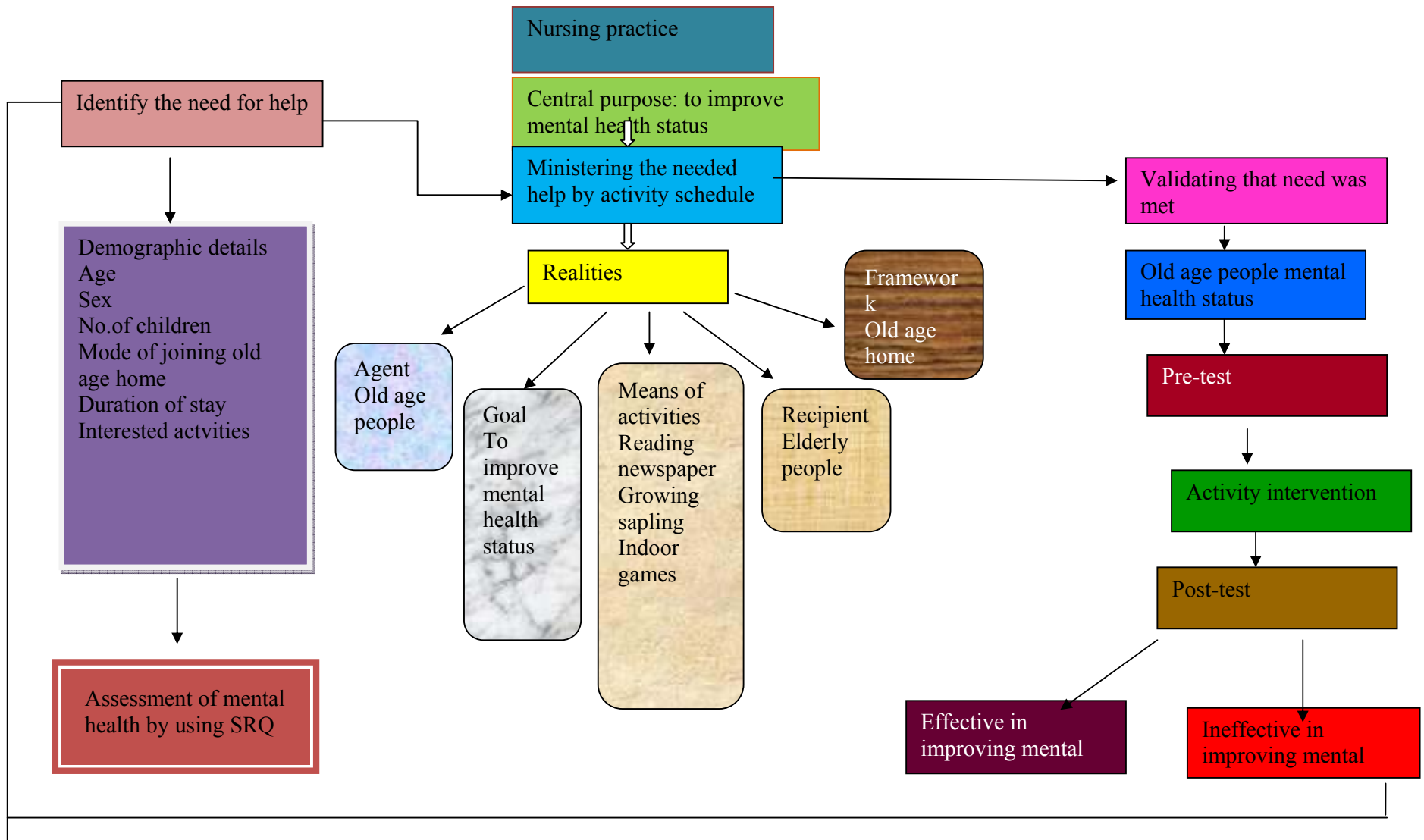
H1: There will be significant relationship between the activity intervention and mental health of older adults in old age home

H2: There will be significant association between the selected socio-demographic variables with the level of mental health of older adults in old age home

1.7 DELIMITATION:

- The study is delimited to a period of 4 weeks
- Older adults in Selected old age home

MODIFIED WIEDENBACH'S HELPING ART OF CLINICAL NURSING THEORY (1964)



CHAPTER II

REVIEW OF LITERATURE

Research is made in order to inform people with new knowledge or discovery. Every piece of ongoing research needs to be connected with the work already done to attain overall relevance and purpose. The review of literature thus becomes a link between the research proposed and the studies already done.

2.1 Review of literature is divided in following heads

1. Studies related to prevalence of mental health among elderly people
2. Intervention studies related to elderly mental health

2.1.1 Studies related to prevalence of mental health among elderly people

Cooper et.al (2011) in their epidemiological study on the prevalence of mental health disorders in elderly people with intellectual disability conducted comprehensive psychiatric assessments on all identified people with intellectual disability aged 65 years and over (n = 134). They used multi-variate analysis as a measure of statistical analysis. The results revealed that elderly people had higher rates of dementia (78.0%), generalized anxiety disorder (11.0%) and depression (11%).

Kristen M et.al (2010) conducted a study on Trauma, Stress, Health, and Mental Health Issues among Ethnically diverse Older Adult Prisoners (n=114). This study identified and described the important psychosocial characteristics, particularly trauma, life-event stressors, health, mental health, and

substance abuse, among older adults in prison. Data were collected using case record reviews of 114 prisoners aged 55 or older in the New Jersey, Department of Corrections. Findings revealed that the study participants belonged to diverse group with varied psychosocial issues and needs, including trauma and stress histories, substance use, and health and mental health issues. Most had childhood or adult trauma, such as physical or sexual abuse. Family problems were common in childhood and adulthood. Understanding the problems and needs of older adult prisoners may help improve practice, promote advocacy, and prompt research that can enhance the quality of life of this population.

Laurie M. et.al (2010) conducted a study on Suicide Ideation among elderly people (n=750). The data was collected by using the Canadian Community Health Survey 1.2: Mental Health and Well-being (CCHS 1.2) and the prevalence of suicide ideation and the prevalence of major psychiatric disorder among older adults were estimated. The multivariate models revealed that suicide ideation was associated with depression and anxiety disorders. The authors concluded that the low prevalence of service use among older adults as a contributing factor for suicidal ideation and suggested that the need for further inquiry into the factors associated with mental health concerns with health care providers, particularly among older adults

Cleusa P et.al (2009) in their cross-cultural study on Prevalence of anxiety and its correlates among older adults in Latin America, India and China studied the prevalence of anxiety and its correlates among older adults in low- and middle-income countries with diverse cultures (n=15021). Anxiety was measured by using the Geriatric Mental State Examination (GMS) and the Automated Geriatric Examination for Computer Assisted Taxonomy (AGECAT) diagnostic algorithm. Authors concluded that Anxiety is common in Latin America. They also recommended the need for further research to explore the mental health of older people in developing countries where more rapid changes of demographic profile alters the mental health of old age people.

Gopal Agrawal (2008) conducted a study on Morbidity Prevalence and Health Care Utilization among Older Adults in India which is facing accelerated

demographic transition. The study assessed the pattern of disease burden, health care utilization, and their covariates for older adults in two selected states based on the 60th round of National Sample Survey (NSSO) data. The states in focus were Maharashtra, the state ahead in demographic transition, and Uttar Pradesh, the state lagging in this process. Multivariate logistic regression estimates showed that both the morbidity and health care utilization rates are increasing among older adults. Thus the author concluded that there are substantial disparities in the pattern of morbidity prevalence and health care utilization among older persons.

Melissa A et.al (2008) conducted Adult Children Influence on Older Parents' Mental Health (n=600). It was found that insights from the life-course stress-process perspectives and adult children's negative treatment of parents, as well as negative events that children experience, detrimentally affect elderly parents' mental health over time. The study revealed that strains may affect mothers more than fathers and blacks more than whites, because of the greater importance of the parental role to these groups in late life. Authors concluded that Adult children becoming ill or unemployed positively relates to changes in distress over time. Surprisingly, marital dissolution by adult children is related to decreases in anger for parents. This research indicates that the social-psychological implications of the parental role are not an end when children are adults; however, the influence on mental health in old age is varied.

Yunhwan L et.al (2005) conducted a community based study on the predictive value of self assessed general, physical, and mental health on functional decline and mortality in older adults (n=7527). Study used a population-based secondary data from the US Longitudinal Study of Aging (LSOA). Eight different measures on self reported general, physical, and mental health were used. Change in functional status was measured using a composite index of ADLs and IADLs over a period of six years. Duration of survival was calculated over a period of seven years. Multivariate analyses were used to assess the global health, self care ability, and physical activity. Authors concluded that self assessed global health, as well as, specific dimensions of health act as significant, independent predictors of functioning and mortality in a community dwelling older people.

Intervention studies related to elderly mental health

Jonnie M et.al (2011) in their community based study on perceptions of physical activity by older adults assessed the issues and effects of physical activity (n=234). Many of the barriers for physical activity were enlisted by older adults among which majority was pain. In spite of physical pain participants followed the activities as per the schedule. Multi variate analysis was used to measure the collected data. Moreover the participation level increased day by day by their active involvement. Authors concluded that involvement in physical activity which is age appropriate would produce positive benefits like increased mental health, satisfaction and decreased level of stress.

Gerontolol B.et.al (2011) assessed the impact of resistance exercise training on mental health of older Puerto Rican adults (n=59). The tools used were geriatric depression scale, SF-36 mental component summary score and self reporting questionnaire. The collected data was examined using multi-variate statistical analysis. Findings revealed that by incorporating exercise into the treatment planning, the mental health of older adults showed a significant ($p=0.001$) improvement. Authors concluded that these exercise programs should be implemented in community programs related to older adults to produce positive outcomes on the mental health status.

Nigg C et.al (2011) in their community based study on health correlation of exercise behavior intervention for elderly (n=48) found that intervention like posters with stage based pamphlets (for inactive stages) and in house exercise sessions (for active participations) improved the measured variables like physical, mental and general health which suggests that overall impact of intervention had potential effect on improving quality of life among elderly. The data were analysed using chi-square test. Authors concluded that involvement in general activities promoted the elderly people's satisfaction with life and decreased the depressive symptoms.

Andrea E.et.al (2010) in their study on effect of mental and physical activity on cognitive performance of older adults (n=259) found that the impact of physical and mental activity was highly significant on cognitive function of older adults. They included the activities like episodic memory, word recall, executive control and verbal fluency. They adopted analysis of co-variance to measure the statistical significance. Findings of the study showed a significant ($p=0.002$) improvement in functional ability of older adults. Authors suggested that by maintaining regular exercise schedule the cognitive performance of older adults could be improved and sustained to the highest possible level.

Edward Mc Auley et.al (2010) in their study on effectiveness of physical activity function and functional limitations in older adults (n=150) found that regular physical activity participation improves functional performance like walking, standing balance, flexibility and getting up out of chair. They used purposive sampling techniques to select the samples and adopted co-variate analysis to measure the statistical significance. Authors concluded that development of strategies within physical activity and rehabilitation programs would maximize the source of effectiveness thus maintaining health of older adults.

Judy K. et.al (2010) conducted an explorative study on effect of prescribed amount of physical activity on mental well being of older adults (n=170). It was found that regular physical activity improves mental health and delays the origin of many chronic illnesses. The collected data were analyzed using Pearson correlation coefficient method. Authors concluded that moderate intensity physical activity had a positive effect on mental health and also in cognitive health of older adults.

Arshad C et.al (2010) conducted a concurrent study on associations between physical activities, walking and mental health in older women (n=2436). The study showed that Leisure-time physical activity (LTPA) was helpful for reducing the risk of poor mental health in later life. The population of the study completed mailed surveys in 1999, 2002 and 2005 for the Australian Longitudinal Study on Women's Health and the respondents reported their weekly minutes of walking, moderate LTPA

and vigorous LTPA with the Goldberg Anxiety and Depression Scale (GADS).). Multivariable linear mixed models, adjusted for socio-demographic and health-related variables, were used to examine associations between five levels of LTPA (none, very low, low, intermediate and high) and GADS scores. Authors concluded that inverse dose–response association between both LTPA and walking with mental health, over 3 years in older women reduced the symptoms of depression or anxiety.

Duncan H. et.al (2009) in their explorative study on effects of everyday activity program on executive function and memory among elderly people (n = 149) found that activity programs improved the components of cognition that is critical to function independently by old age people. Activities included were designed to increase both cognitive and physical function in social – real world setting. They assessed the memory, executive function (EF) and psychomotor speed for 4 to 8 months duration. The collected data were analyzed using bivariate analysis. Authors concluded that this program is potentially effective model which sustains the cognitive function to the greatest proportion thus alleviating the risk for health disparities.

Susan L. et.al (2009) conducted a study on impact of fit and strong activity intervention on functional ability of older adults with osteoarthritis (n = 80). The study assessed the effect of low cost, multi-component physical activity intervention on elderly peoples' functional ability. Training program consisted of range of motion exercise, resistance training, aerobic walking and group problem solving techniques. Multivariate analysis was used to analyze the collected data. Results showed that participants experienced decrease in pain and improvement in adherence to the exercise program at significant level ($p = 0.052$). Authors concluded that this low cost intervention was effective in improving the physical fitness of elderly people.

Damush M.et.al (2009) conducted a study on effect of exercise activity program on mental health of elderly people (n=62). It was found that regularized low intensity activity enhanced the level of mental health of older adults. The collected

data was analyzed by using bi-variate statistical analysis. Results showed that participation in active exercise program influenced the mental health status of elderly people in a highly significant ($p=0.001$) way. Authors concluded that elderly individuals exhibited positive mental health when they were involved in regular activities.

Kiernan M.et.al (2009) in their study on impact of physical activity on depression of elderly people ($n=250$) found that physical activity had a potential role in reducing the symptoms of depression. They used convenient sampling technique and adopted student 't' test method to assess the statistical significance. The study findings revealed that involvement in regular physical activity had significant ($p=0.01$) improvement in improving the mental well being of older adults. Authors suggested that aerobic and non-aerobic exercise had a beneficial effect on depression of older adults.

Jack W. et.al (2008) in their study on effect of physical activity on confidence and satisfaction in physical function among elderly people ($n = 412$) found that physical activity intervention had a favorable effect on self-efficacy and increased satisfaction with physical functioning. The study was conducted for a period of 12 months. Data collected were analyzed using chi-square test. Authors concluded that the physical activity intervention produced positive changes in behavior and quality of life among elderly people.

Rejeski J.et.al (2008) conducted a study on relationship between physical activity and quality of life in elderly people ($n=180$). They examined the potential mediators and moderators of the physical activity and its relationship with the life of older adults. The collected data was analyzed using multi-variate statistical technique. Results revealed that physical activity had a significant ($p=0.002$) effect on the health status of older adults and improved the level of satisfaction in their life. Authors concluded that by implementing well designed physical activity programs for older adults would benefit the quality of life of older adults.

Robert S.et.al (2008) conducted a study on effect of enrichment activities on cognitive development of older adults (n=534). The study showed that cognitive ability of elderly people was influenced by engaging them in beneficial intellectual, physical and social activity. Sample was selected using simple random sampling technique and co-variate analysis method was adopted for analysis of the collected data. Authors concluded that activities like complex video games, task switching paradigms and divided attention task were statistically significant ($p=0.001$) in improving the cognitive ability of the older adults.

Basia B.et.al (2008) conducted a study on effect of activity schedule on well being of senior citizens (n=275). It was found that participants of the study involved in activities in-spite of their physical complaints. Researchers made elderly people to involve in activities like painting, gardening and watching television which included group gatherings. The collected data was assessed using bi-variate analysis for it statistical significance. The findings of the study revealed that scheduled activity had a positive significant ($p=0.02$) on mental health of older adults. Authors concluded that elderly peoples' mental health status could be improved when they were allowed to participate in regular activities.

Stewart L.et.al (2008) conducted a study on effect of physical activity promotion program among old age people (n = 164). The study included choice-based physical activity program to increase the life time physical activity of elderly people. Study offered information about the ways to exercise safely, motivating factors to overcome barriers and development of balanced exercise regimen. Changes in self reported physical activity were evaluated using ANCOVA method of statistical analysis and it was significant at ($p = <0.05$) level. Authors concluded that individually tailored programs encourage life style changes among elderly people.

Anna K. et.al (2007) conducted a study on effectiveness of psychosocial interventions for the prevention of depression among old age people (n = 100). The study revealed that the participation of older adults in varied social activities reduced the feelings of depression. The data collected was analyzed using multi-variate analysis. Results showed that these psychosocial interventions had a significant effect on decreasing the depressive symptoms ($p = 0.01$). Authors suggested that the primary prevention of depression among elderly people is weak and hence further research is needed to find out most promising type of interventions to reduce depression among older adults.

Masi M.et.al (2007) conducted a study on intervention to reduce loneliness among elderly (n=250). The study projected that social and demographic trends placed elderly people at risk for loneliness. They included loneliness reduction interventions like enhancing social and communication skill, group discussion and regular social gatherings. Data collected was analyzed using Chi-square test. Results revealed that these interventions were statistically ($p=0.02$) significant in reducing the loneliness. Authors concluded that by engaging older adults in social activities would enhance their mental and physical well-being.

Farbus L.et.al (2007) in their study on effects of creative and social activity on mental well-being of isolated older people (n=229) found that social isolation impaired the long term health of older adults. Researchers explored that intervention promoting active social contact and creativity in activities of daily living promoted the mental health and well being of the respondents. The participants' mental health was assessed by geriatric depression scale, SF 12 health quality of life and medical outcome social support scale. Multi-variate statistical method was used to analyze the effectiveness. Results showed significant ($p=0.06$) improvement in depression and social support. Authors suggested that adopting individual tailoring would be a key mediator for positive outcome on mental health of older adults.

2.2 Conceptual Framework

The conceptual framework is the map which gives coherence to empirical inquiry. It outlines the possible courses of action in the research.

The study is based on the concept to assess the effectiveness of activity intervention on mental health of older adults living in old age home. The investigator adopted “**Wiedenbach’s theory of helping art of clinical nursing**”, (1964) for conceptual framework.

This theory directs towards an explicit goal. It consists of three factors like *central purpose, prescription and realities*. Researcher developed a prescription based on a central purpose and implemented according to the realities of the situation.

According to this theory there are three steps to be followed:

Step I: Identifying need for help

Step II: Ministering the needed help

Step III: Validating that the need for help was met.

1. Central purpose:

It refers to what the nurse wants to accomplish

Nursing practice:

Steps involved were identifying the need for help, administering the needed help and validating that the need for help was met.

In this study:

The main central purpose was to assess the effectiveness of activity intervention on mental health of older adults living in old age home (Chengalpattu).

Step I: Identifying the need for help

Researcher identified the needed help by selecting samples based on criteria for sample selection and assessed the mental health of older adults using Self Reporting Questionnaire.

Step II: Ministering the need for help

It refers to provision of required help for identified need. It has two components:

- i. Prescription
- ii. Realities

Prescription:

Refers to planning the care for the study participants.

Realities:

Refers to physical, emotional and spiritual factors that come into play in situation including nursing actions. The five realities identified are agent, recipient, goal, means and framework. Administering help by providing activity schedule like simple exercise, relaxational activity, diversional activity and small group activity helps to improve the mental health of older adults living in old age home.

Step III: Validating that the need for help was met

Researcher validated the ministered help by comparing the pre and post test assessment with the use of Self Reporting Questionnaire.

CHAPTER III

METHODOLOGY

This chapter deals with the brief description of the varied steps undertaken by the investigator for the study. It includes the research approach, research design, and variables, setting of the study, population, sample and sampling techniques, development and description of tool, data collection procedure and plan for data analysis.

3.1 RESEARCH APPROACH AND DESIGN:

The research approach selected was quantitative approach and the design used was **Quasi Experimental** (*one-group pretest and post-test design*).

Research design

Design	Number of groups used	Pre test	Treatment	Post-test
One group pretest and post test	1	Yes	Yes	Yes

3.2 VARIABLES:

Independent variable: Activity Intervention

Dependent variable: Mental Health

Demographic variables: Age, sex, religion, mode of joining old age home, number of children, duration of stay in old age home, interested recreational activity.

3.3 SETTING OF THE STUDY:

The study was conducted in old age home named as Anbu Thondu Nilayam in Chengalpattu. This institution was started in memory of freedom fighter Subramaniya Siva by one of his disciples. It houses nearly 85 people irrespective of caste, creed, race and religion.

3.4 POPULATION:

The study population was the older adults living in the old age home in Chengalpattu.

3.5 SAMPLE CHARACTERISTICS AND SELECTION:

The sample constitutes of older adults belonging to the age group of 60 years to 80 years.

3.5.1 SAMPLE SIZE:

Sample size (N) = 60

3.5.2 SAMPLING TECHNIQUE:

Simple Random Sampling- lottery method

3.5.3 CRITERIA FOR SAMPLE SELECTION:

a) Inclusion Criteria:

- Older adults belonging to the age group of 60 and above
- Individuals who can read and speak Tamil and English
- Individuals willing to participate in the study

b) Exclusion criteria:

- Older adults suffering from critically ill condition
- Older adults who have activity limitations

3.6 DEVELOPMENT AND DESCRIPTION OF THE TOOL:

After extensive literature review and discussion with experts, investigator selected self reporting questionnaire (SRQ) to assess the mental health status of older adults living in old age home.

The tool consist of Section A and B.

1) Section A: Socio- Demographic Profile

It includes socio-demographic details like age group, sex, religion, educational status, marital status, number of children, mode of joining old age home, duration of stay in old age home, interested recreational activity

2) Section B: Self Reporting Questionnaire:

Self reporting questionnaire (**SRQ**) is a measure of general psychological distress developed by World Health Organization and intended to assess mental health status. The SRQ has been standardized in India in two studies (SRQ; Sen, 1987, Srinivasan and Suresh 1990). This standardized instrument was administered to measure mental health status of participating older adults residing in old age home. This is a 20 item questionnaire requesting Yes/ NO response and screens for the presence of anxiety and depressive disorders.

Interpretation:

No universally applicable cut-off score can be used under all circumstances. However for this study the scoring pattern was as follows:

CRITERION MEASUREMENTS-

Maximum score- 20

S no.	Grade	Percentage	score
1.	Poor	61– 100%	13-20
3.	Moderate	41 – 60%	9 -12
4.	Good	≤40 %	≤ 8

Tamil translation:

The complete interview protocol, its instructions and related materials were translated into Tamil by Tamil-speaking scholars. Comparisons were made between two versions and where discrepancies existed researcher worked with translators to resolve them and tool was administered.

Before the tool was administered some informal discussion were made with participants to establish rapport so that they would be relaxed. The questionnaire was administered to them and they were asked to give appropriate answers for all statements or items. People were assured that their responses and details will be kept confidential and will be used only for the research purpose.

3.7 Content validity:

The tool was validated for its suitability and applicability for the present study from the experts in the field of psychiatry, psychology and nursing.

3.8 Pilot Study Report:

The pilot study was conducted after getting the ethical clearance and the permission from the director of old age home at Egmore. It was conducted for the period of one week from 21:3:11 to 25:3:11. Sample number of 20 elderly people residing in old age home who fulfilled inclusion criteria was selected by simple random sampling technique. Informed written consent was obtained from the old age people before doing the data collection. The pilot study elicited that the study was feasible.

3.9 Reliability:

After pilot study reliability of the tool was assessed by using Test retest method. Its coefficient value is 0.80. This correlation coefficient is very high and it is good tool for assessing effectiveness of activity intervention on mental health of older adults living in old age home.

3.10 DATA COLLECTION PROCEDURE:

The main study was conducted in the old age home at Chengalpattu. Initial permission for conducting the main study was obtained from the Secretary of the Old Age Home from 29:8:11 to 29:9:11. After obtaining permissions, Old age people fulfilling the inclusion criteria were selected using the lot method. Informed consent was obtained from the respondents and the details of the study were explained in a simple language. They were asked to answer the statements by interview method by which their responses were recorded. Their demographic details were also entered as they answered the statements. After collecting the pretest data the old age people were explained about the activities that they have to perform during the following weeks.

The activities scheduled as below were informed to the respondents by the investigator.

SCHEDULE OF ACTIVITY INTERVENTIONS FOR OLDER ADULTS:

Sl.no	Criteria	Activities
1.	Physical exercise	➤ Simple range of motion exercise
2.	Diversional activity	➤ Solving the simple puzzles ➤ Creative drawings ➤ Growing a sapling
3.	Relaxational activity	➤ Breathing exercises ➤ Reading newspapers
4.	Small group activity	➤ Group discussion ➤ Simple indoor games

The investigator performed the range of motion exercises to the people by making small groups. Old age people were informed to practice the exercises daily morning and evening. The other activities like reading newspapers, growing a sapling, creative drawing, and solving puzzles were administered as group activities. Their activities were observed and recorded by the investigator. These activities were allowed to perform by the old age people for a period of two and half weeks.

After the completion of performance of the activities, same sample were asked to answer the tool which was provided in the pre-test. The responses of the old age people were recorded and compiled as post-test data to find out the effectiveness of activity intervention on mental health of older adults living in old age home before and after activity intervention.

3.11 DATA ANALYSIS AND INTERPRETATION:

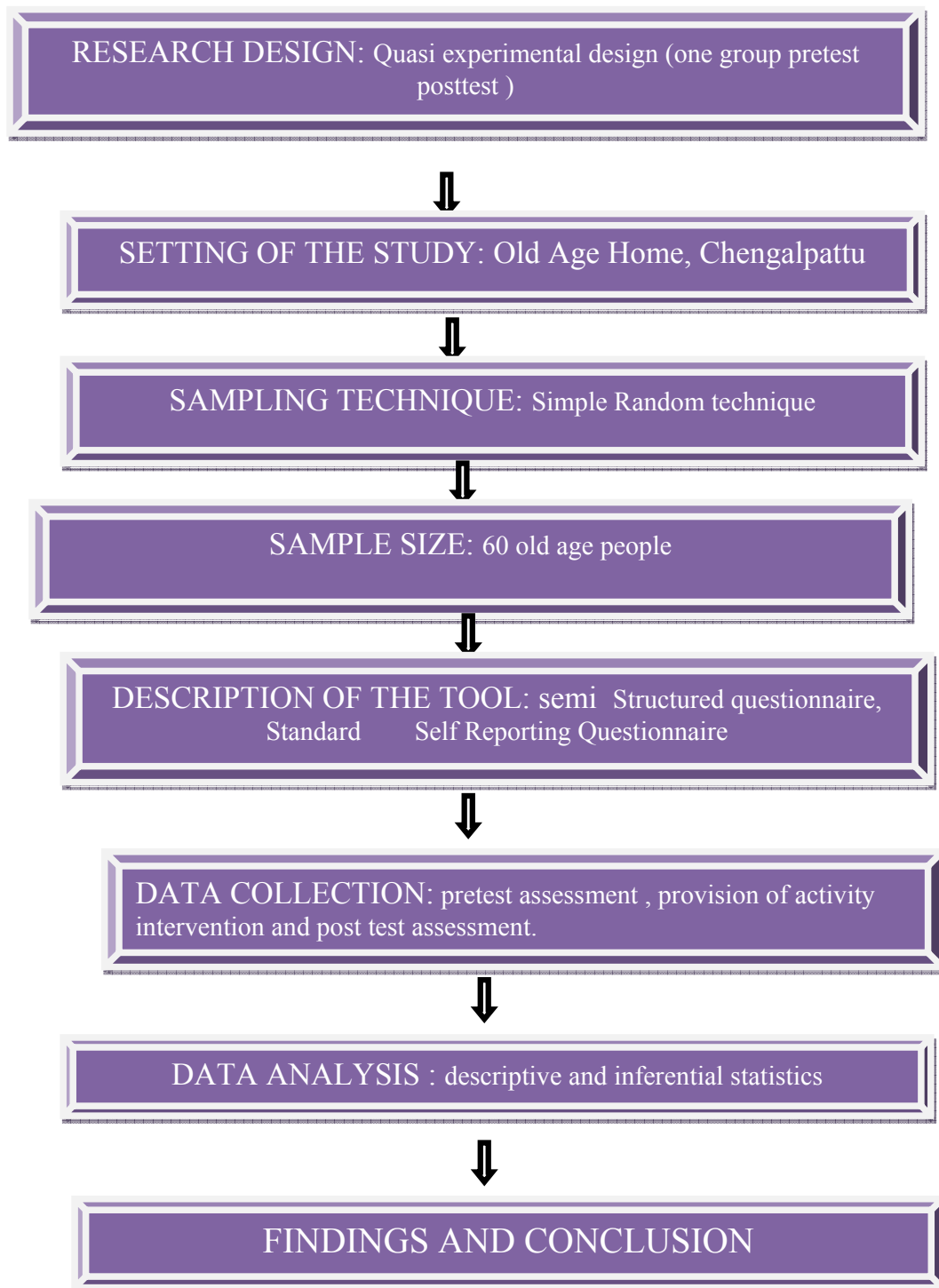
The data were analyzed by using the descriptive statistics such as percentage analysis, mean, standard deviation and by inferential statistics such as Karl Pearson Chi-Square test and student 't' test methods.

3.12 ETHICAL CONSIDERATION:

This study was conducted after obtaining approval from the ethical committee, Madras Medical College, Chennai-03. The respondents were explained about the purpose and need of the study. They were assured that their details and answers will be used only for the research purpose. Further they were ensured that their details will be kept confidentially. Thus the investigator followed the ethical guidelines, which were issued by the research committee or by authority. Written permission was obtained from all participants before conducting the study.

Fig : 3.1

SCHEMATIC REPRESENTATION OF THE PLAN



CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of the data obtained from 60 older adults living in old age home at Chengalpattu. The collected data were tabulated and presented according to the objectives under the following headings.

ORGANIZATION OF THE DATA

SECTION I: Socio-demographic characteristics of the respondents.

SECTION II: Mental health of the older adults before activity intervention

SECTION III: Mental health of the older adults after activity intervention

SECTION IV: Percentage distribution of respondents' mental health score

SECTION V: Effectiveness of activity intervention on mental health.

SECTION V: Association of mental health with the selected socio-demographic variables.

Section I

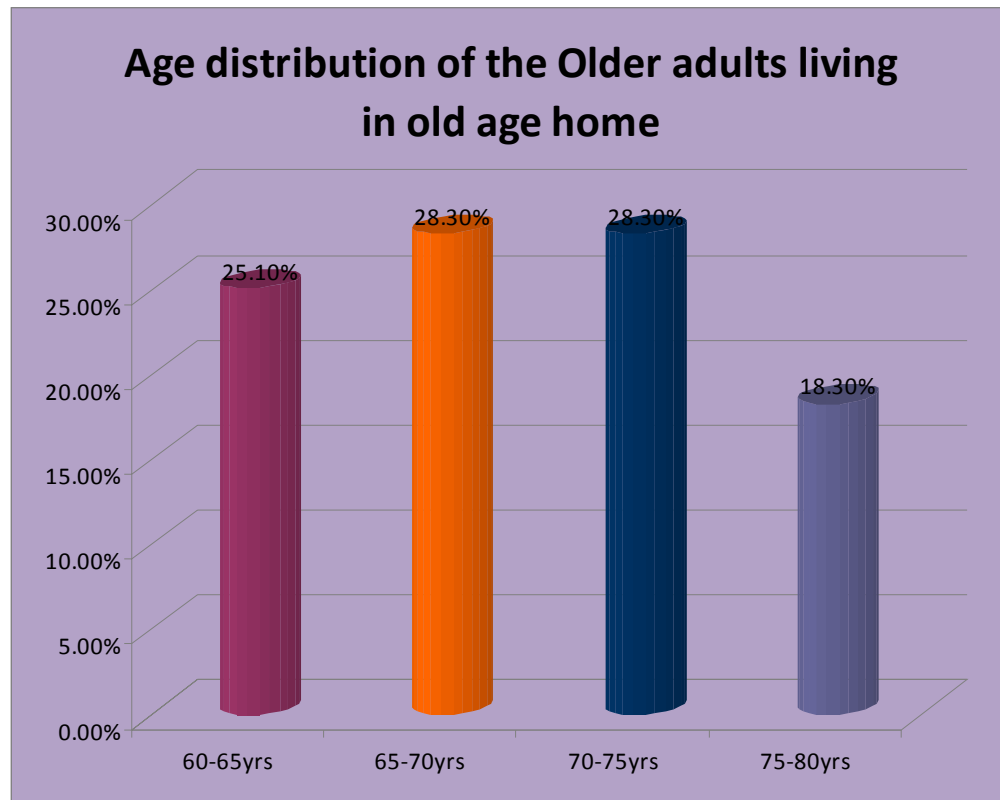
Table 4.1: Demographic variables of the respondents

Demographic characteristics		n	%
Age	60 -65 yrs	15	25.1%
	65 -70 yrs	17	28.3%
	70 -75 yrs	17	28.3%
	75 -80 yrs	11	18.3%
Sex	Male	34	56.7%
	Female	26	43.3%
Religion	Hindu	32	53.3%
	Muslim	16	26.7%
	Christian	12	20.0%
Education	Illiterate	0	0%
	Primary	16	26.7%
	Secondary	18	30.0%
	Higher secondary	14	23.3%
	Graduate	12	20.0%
Marital status	Unmarried	0	0%
	If married		
	Living with wife/husband	0	0%
	Widow/Widower	26	43.4%
	Separated	20	33.3%
	Divorced	14	23.3%
Number of children	One	12	20.0%
	Two	32	53.3%
	> Two	16	26.7%
Duration of stay in the old age home	0 -1 yr	18	30.0%
	1 - 3 yrs	19	31.7%
	3 - 5 yrs	13	21.7%
	>5 yrs	10	16.6%
Mode of joining the old age home	By offspring's	32	53.3%
	Voluntary	21	35.0%
	Friends	7	11.7%
Recreational activity interested	Gardening	12	20.0%
	Visiting temple	16	26.7%
	Chatting with others	13	21.6%
	Not interested	19	31.7%

The above table represented frequency distribution of the respondent's demographic details.

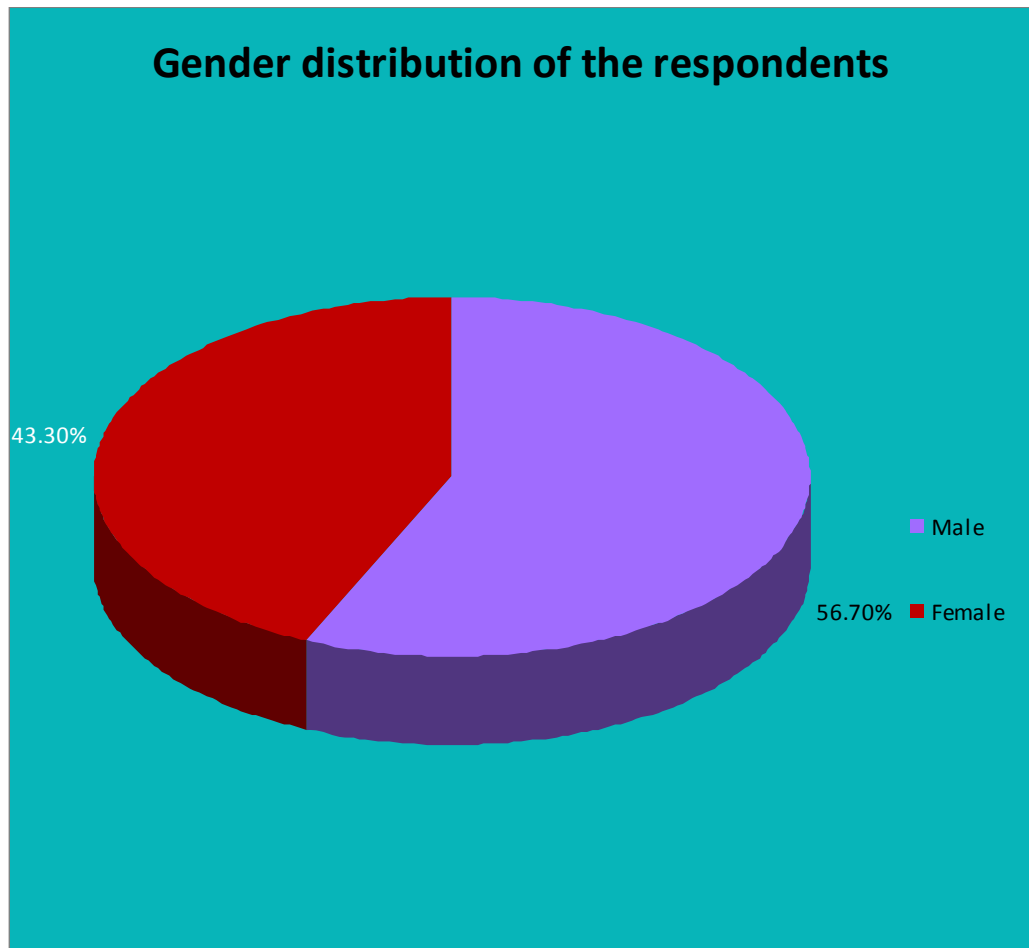
Equal number of respondents (28.3%) belonged to the age group of either 65-70 years or 75-80 years. More than half of the respondents (56.7%) were males in gender. Majority of the respondents (53.3%) were Hindu by religion. With regard to educational status none of the participants were illiterate. All the respondents were married but none of them are living with their wives. More than half of the respondents (53.3%) were having two children. Almost equal numbers of participants were staying in old age home for either 1 year (30.0%) or 1-3years (31.7%). More than half of the participants (53.3%) were left in the old age home by their offsprings. Majority (31.7%) of the respondents were not interested in any of the recreational activities.

Figure 4.1



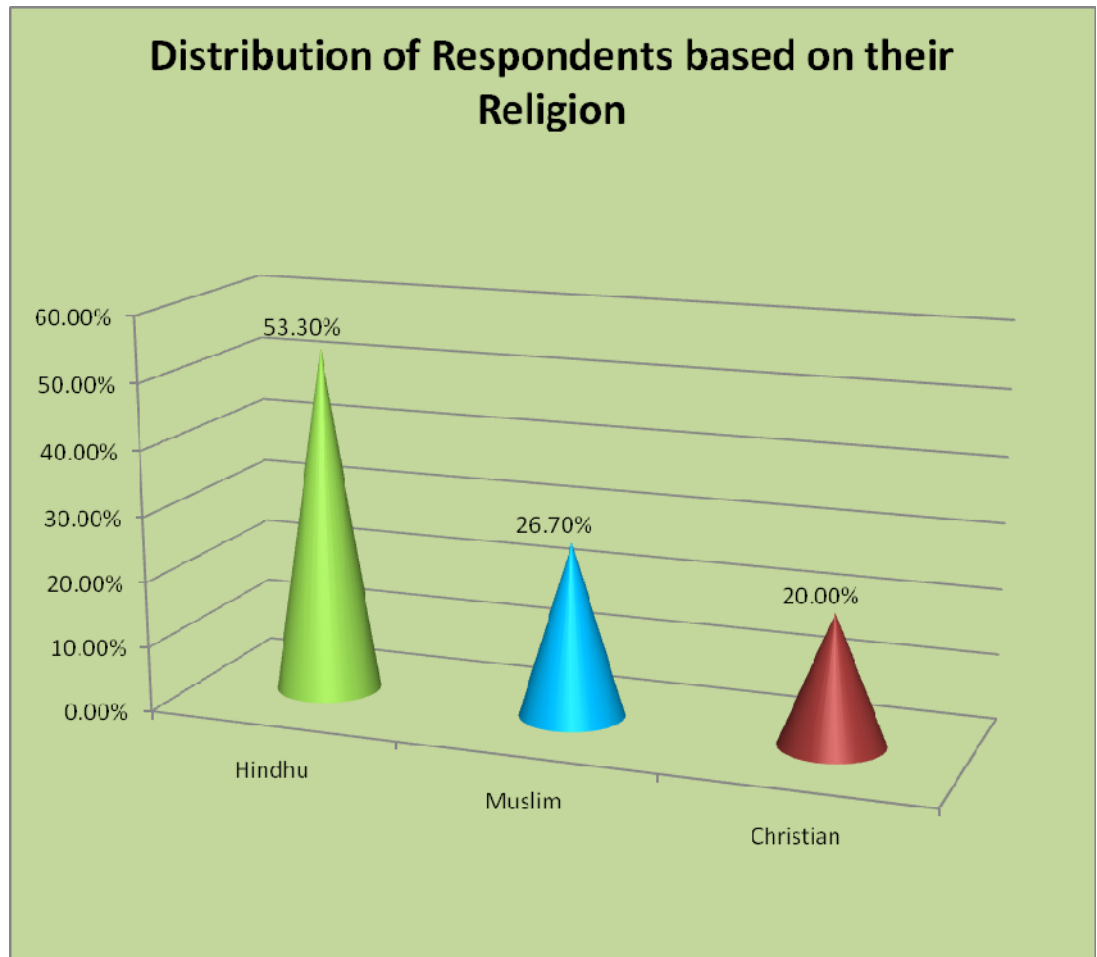
Equal number of respondents (28.3%) belonged to the age group of either 65-70 years or 75-80 years

Figure 4.2



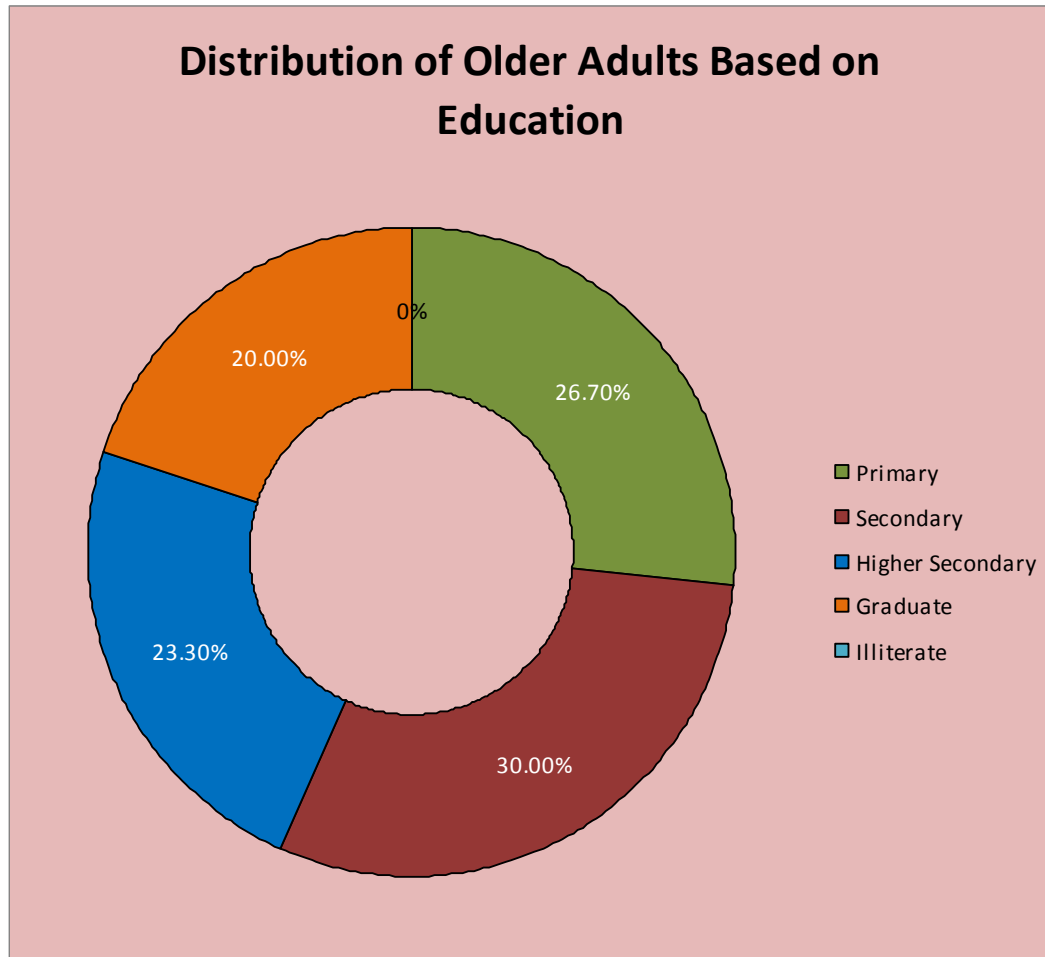
More than half of the respondents (56.7%) were males in gender

Figure 4.3



Majority of the respondents (53.3%) were Hindu by religion.

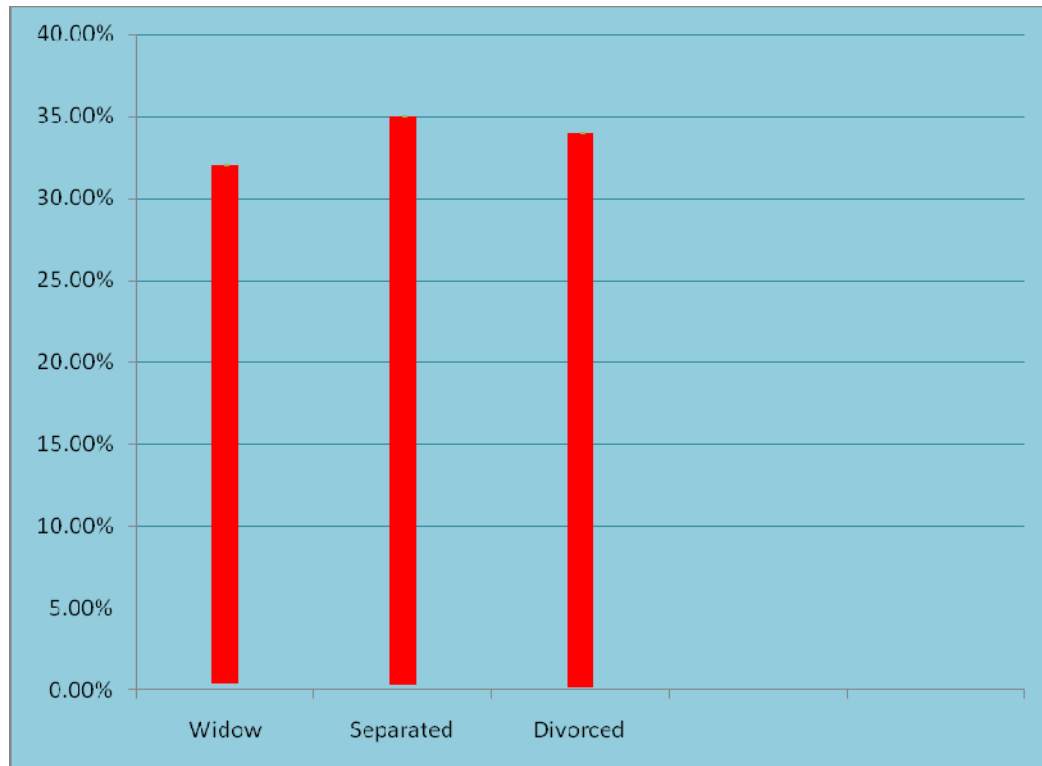
Figure 4.4



With regard to educational status none of the participants were illiterate.

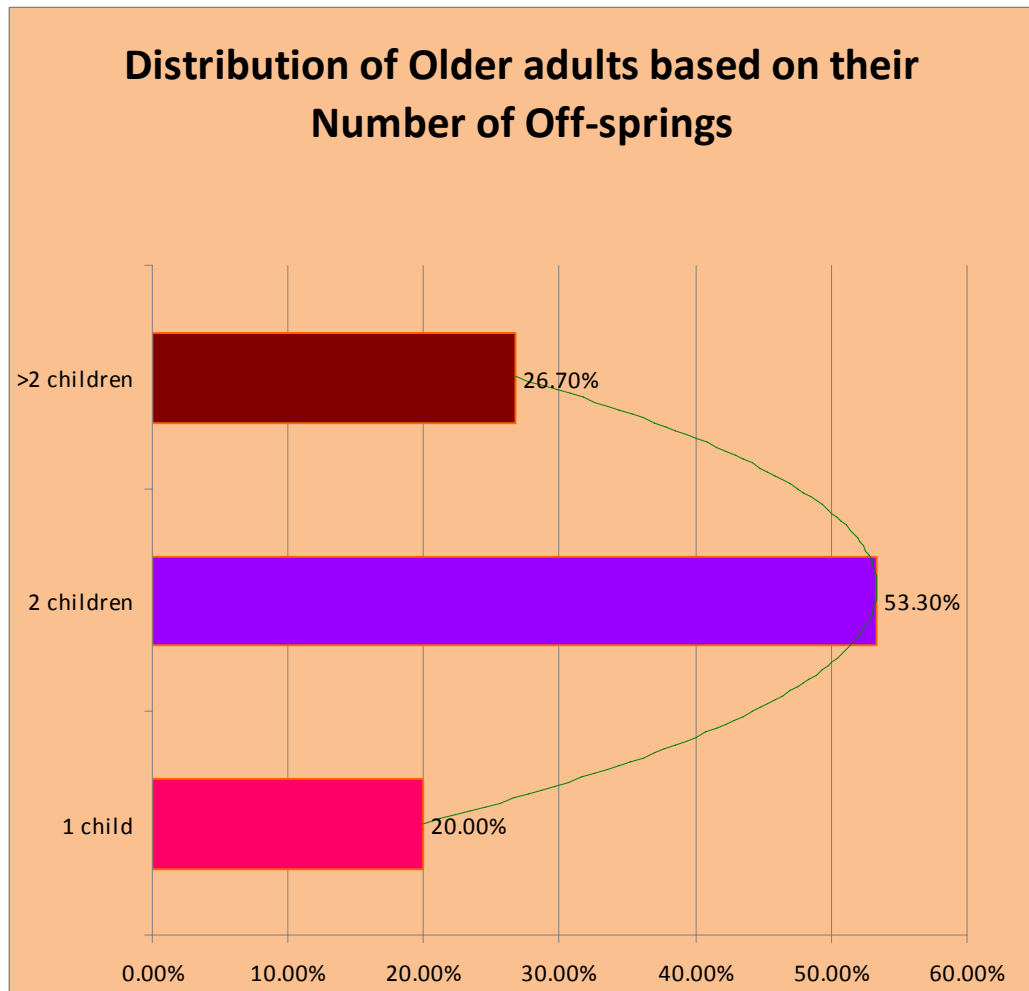
Figure 4.5

Distribution of Respondents based on their Marital Status



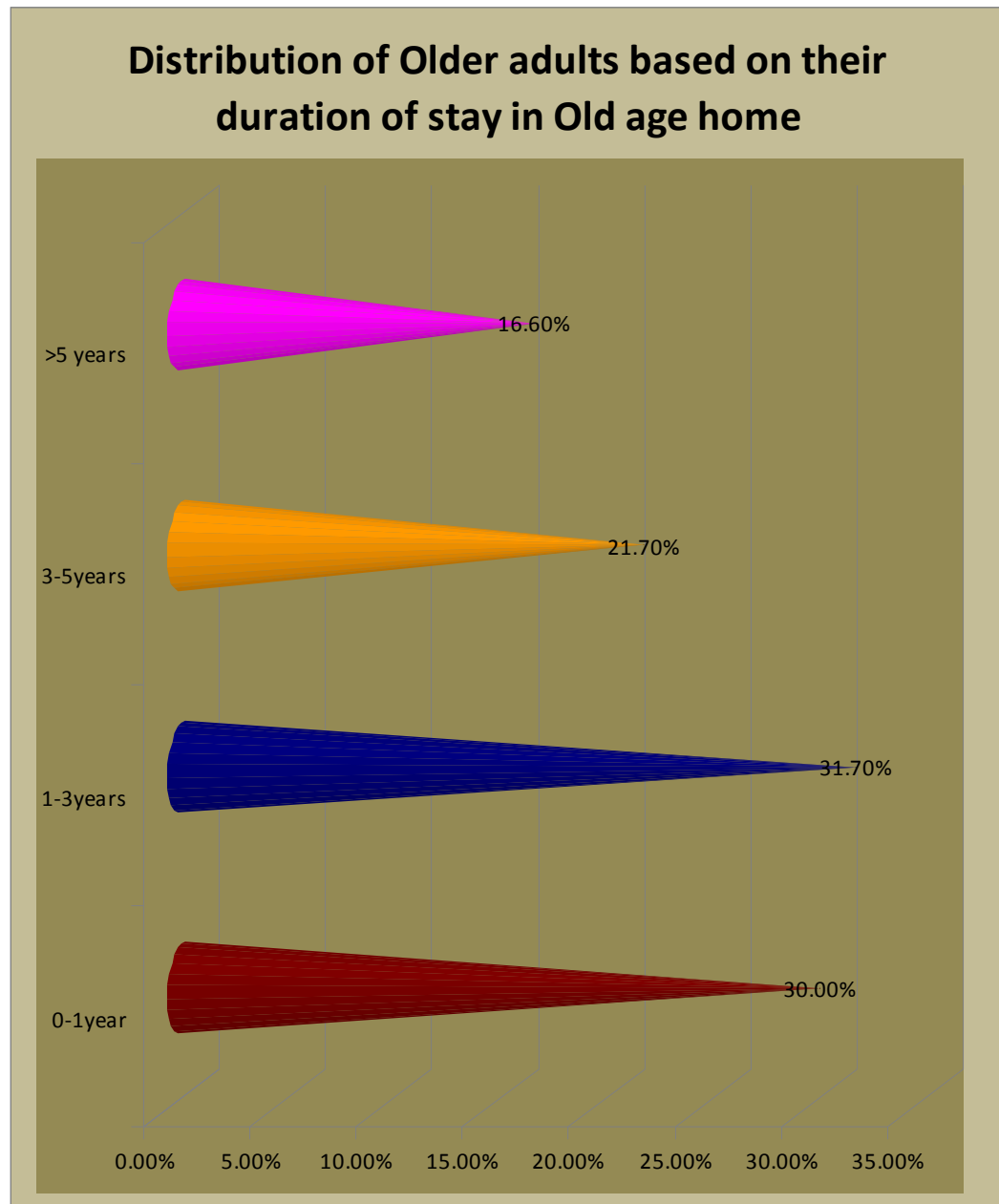
All the respondents were married but none of them are living with their wives

Figure 4.6



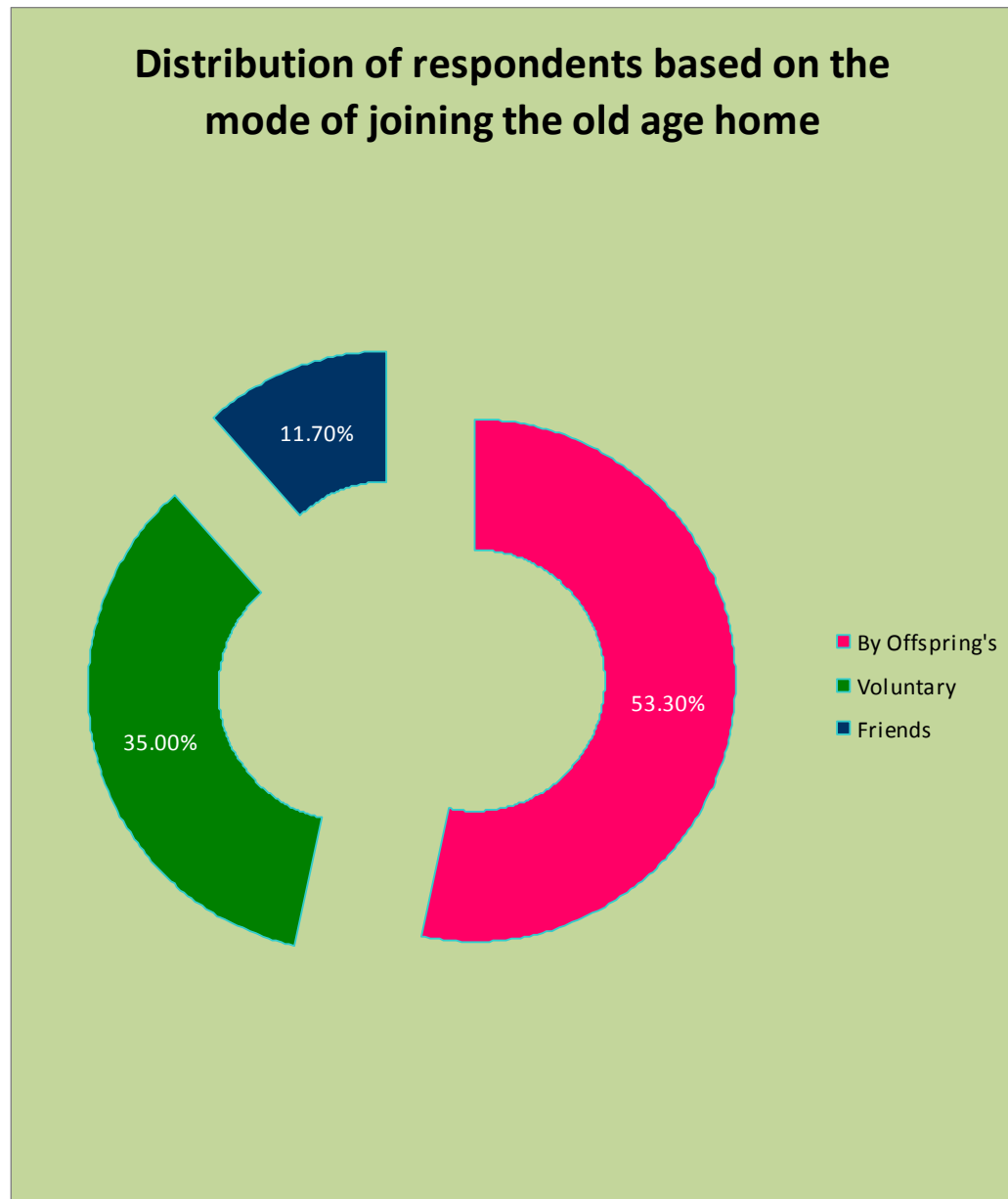
More than half of the respondents (53.3%) had two children.

Figure 4.7



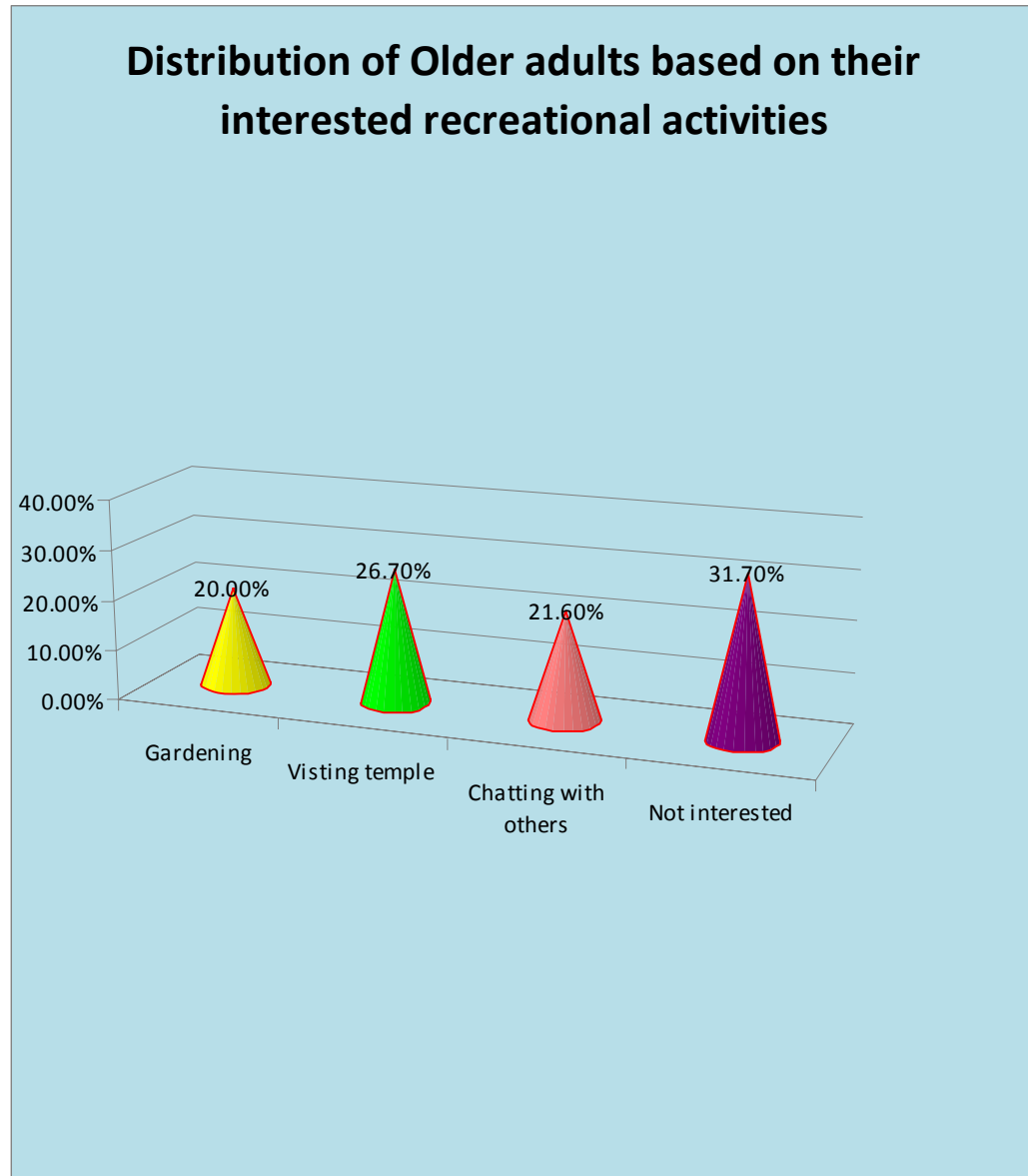
Almost equal numbers of participants were staying in old age home for either 1 year (30.0%) or 1-3 years (31.7%).

Figure 4.8



More than half of the participants (53.3%) were left in the old age home by their off-springs.

Figure 4.9



Majority (31.7%) of the respondents were not interested in any of the recreational activities.

Section – II

Table 4.2

Pre-intervention mental health score of older adults

Mental health	No. of older adults	%
Good	0	0.0%
Moderate	37	61.7%
Poor	23	38.3%
Total	60	100%

Table no: 4.2 showed the level of mental health of elderly people residing in old age home before activity intervention. Majority (61.7%) of the respondents had moderate mental health score.

Section- III

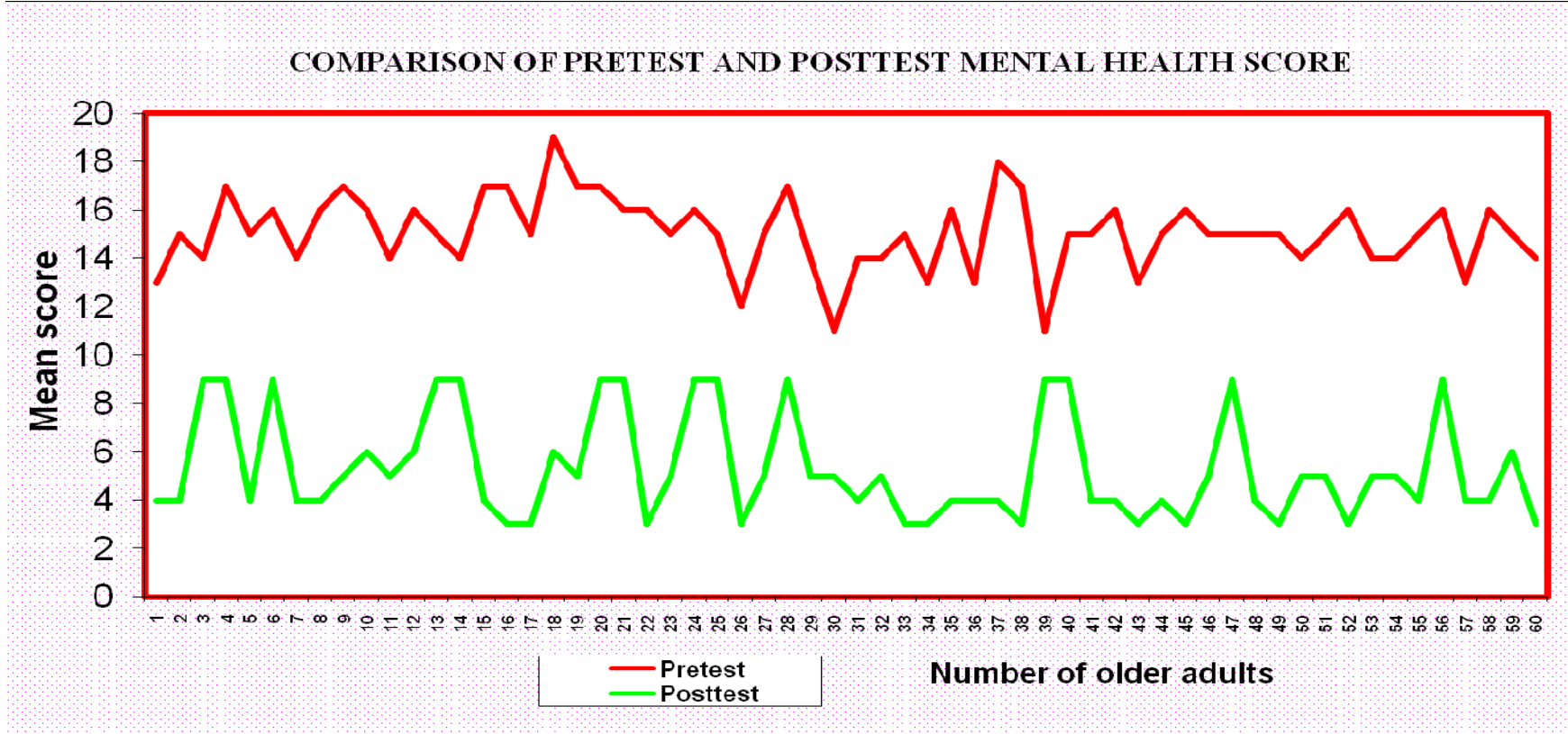
Table 4.3

Post-intervention mental health score of older adults

Mental health	No. of older adults	%
Good	46	76.7%
Moderate	14	23.3%
Poor	0	0.0%
Total	60	100%

The above table projected the post intervention level of mental health of older adults residing in old age home. Majority (76.7%) of older adults exhibited good level of mental health after activity intervention.

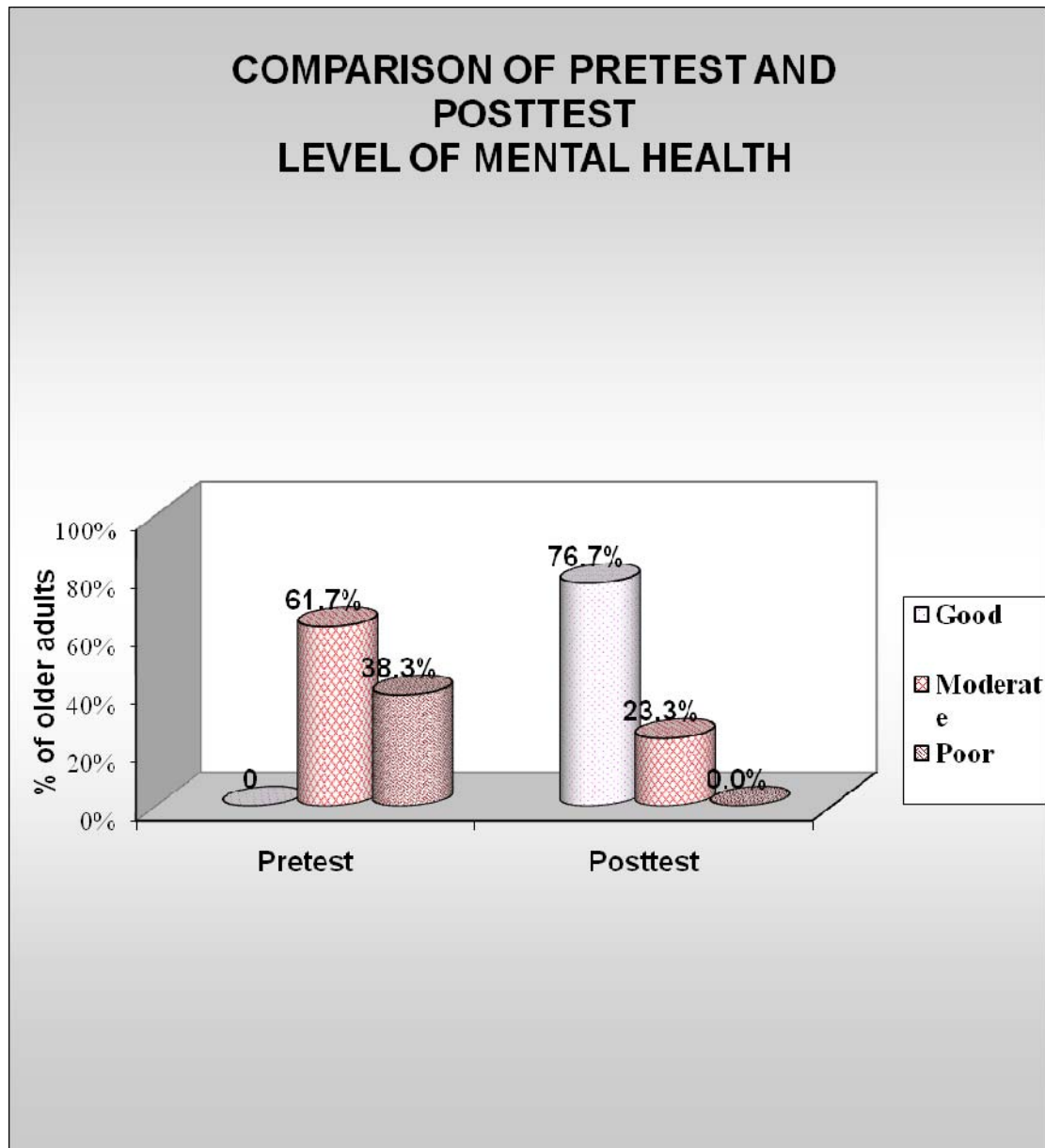
Figure 4.10



The mental health score of older adults improved to a mean score of 5.32 after activity intervention.

Section – IV

Figure 4.11



Majority (76.7%) of participants' gained improved mental health

Table 4.4

Effectiveness of activity intervention on mental health

Test	Max score	Mean score	Mean Difference in mental health score with 95% Confidence interval	Percentage Difference in mental health score with 95% Confidence interval
Pretest	20	15.07	9.75(9.06 – 10.44)	48.7 %(45.3% –52.2%)
Posttest	20	5.32		

The above table revealed the effectiveness of activity intervention on mental health of older adults living in old age home. Older adults gained 48.7 percentage differences of mental health score after activity intervention.

Table 4.5**Association of pretest and posttest mental health score**

Level of test	Mean±SD	%	Student's paired t-test
Pre-test	15.07± 1.55	75.4%	t=29.55 P=0.001 *** DF=59 significant
Post-test	5.32 ± 2.21	26.6%	

The above table represented the association of pretest and posttest mental health score and showed highly significant association (p= 0.001***)

Section VI

Table 4.6

Association between post-intervention mental health score and demographic variables.

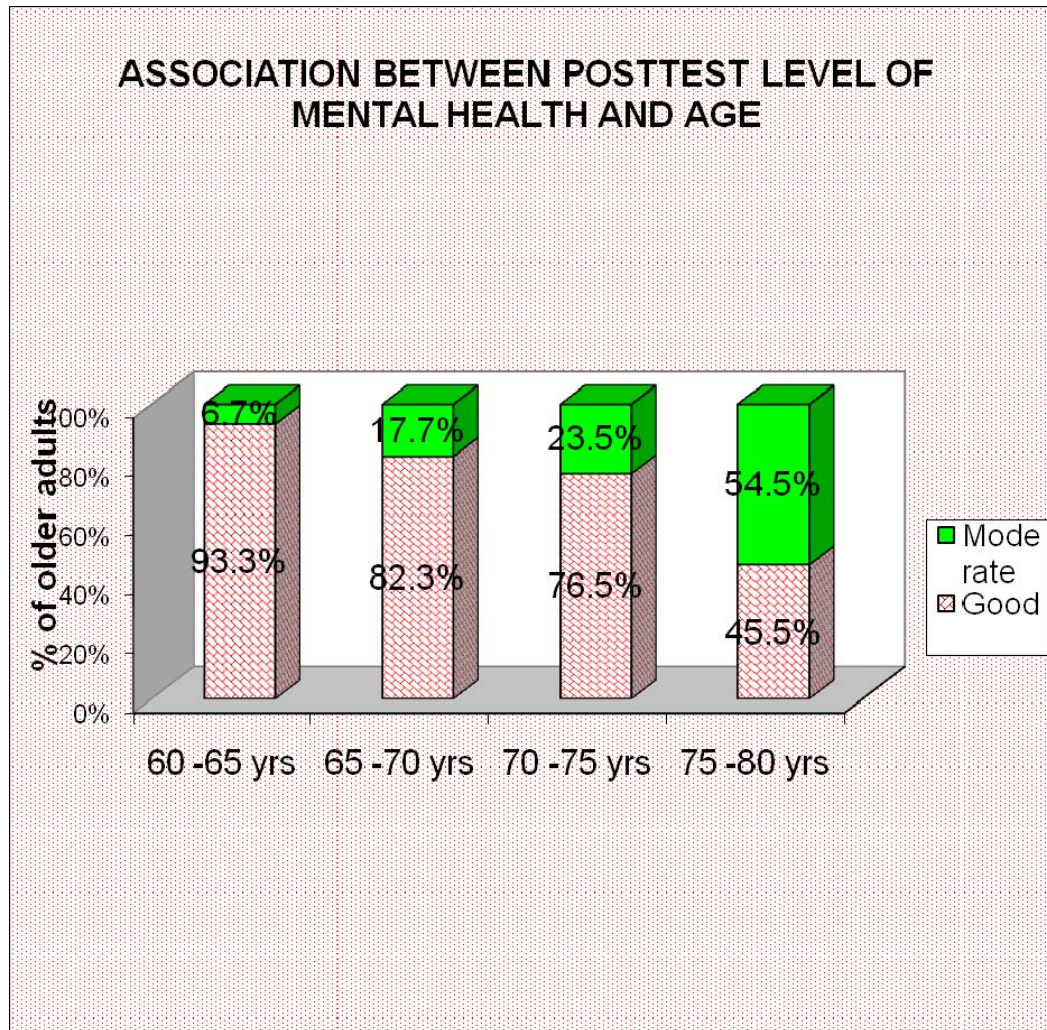
Demographic variables		Level of mental health				Total	Pearson chi square test
		Good		Moderate			
		n	%	n	%		
Age	60 -65 yrs	14	93.3%	1	6.7%	15	$\chi^2=8.63$ P=0.03* DF=1
	65 -70 yrs	14	82.3%	3	17.7%	17	
	70 -75 yrs	13	76.5%	4	23.5%	17	
	75 -80 yrs	5	45.5%	6	54.5%	11	
Sex	Male	24	70.6%	10	29.4%	34	$\chi^2=1.62$ P=0.20 DF=1
	Female	22	84.6%	4	15.4%	26	
Religion	Hindu	25	78.1%	7	21.9%	32	$\chi^2=0.89$ P=0.63 DF=1
	Muslim	11	68.8%	5	31.3%	16	
	Christian	10	83.3%	2	16.7%	12	
Education	Illiterate	0	0	0	0	0	$\chi^2=0.70$ P=0.87 DF=1
	Primary	12	75.0%	4	25.0%	16	
	Secondary	15	83.3%	3	16.7%	18	
	Higher secondary	10	71.4%	4	28.6%	14	
	Graduate	9	75.0%	3	25.0%	12	
Marital status	Unmarried	0	0	0	0	0	$\chi^2=7.36$ P=0.02* DF=1
	If married	0	0	0	0	0	
	Living with wife/husband						
	Married	20	76.9%	6	23.1%	26	
	Widow	12	60.0%	8	40.0%	20	
	Divorce	14	100.0%			14	

Number of children	One	11	91.7%	1	8.3%	12	$\chi^2=2.81$ P=0.24 DF=1
	Two	22	68.8%	10	31.3%	32	
	> Two	13	81.3%	3	18.8%	16	
Duration of marital life	30 -35 yrs	9	75.0%	3	25.0%	12	$\chi^2=0.96$ P=0.80 DF=1
	35 -40 yrs	12	75.0%	4	25.0%	16	
	40 -45 yrs	22	75.9%	7	24.1%	29	
	45 -50 yrs	3	100.0%			3	
Duration of stay in the old age home	0 -1 yr	16	88.9%	2	11.1%	18	$\chi^2=9.62$ P=0.02* DF=1
	1 - 3 yrs	16	84.2%	3	15.8%	19	
	3 - 5 yrs	10	76.9%	3	23.1%	13	
	>5 yrs	4	40.0%	6	60.0%	10	
Mode of joining the old age home	by offspring's voluntary	20	62.5%	12	37.5%	32	$\chi^2=7.96$ P=0.01** DF=1
		20	95.2%	1	4.8%	21	
	friends	6	85.7%	1	14.3%	7	
Recreational activity interested	Gardening	9	75.0%	3	25.0%	12	$\chi^2=0.66$ P=0.88 DF=1
	Visiting temple	13	81.3%	3	18.8%	16	
	Chatting with others	9	69.2%	4	30.8%	13	
	Not interested	15	78.9%	4	21.1%	19	

* Significant at $P \leq 0.05$ ** highly significant at $P \leq 0.01$ *** very high significant at $P \leq 0.001$.

Above table 4.9 represented the association between post intervention mental health score and demographic variable. Among the selected socio-demographic variable Age ($p=0.03$), Marital status ($p=0.02$), Duration of joining the old age home ($p=0.02$) and Mode of joining the old age home ($p=0.01$) had significant association with the mental health of the older adults.

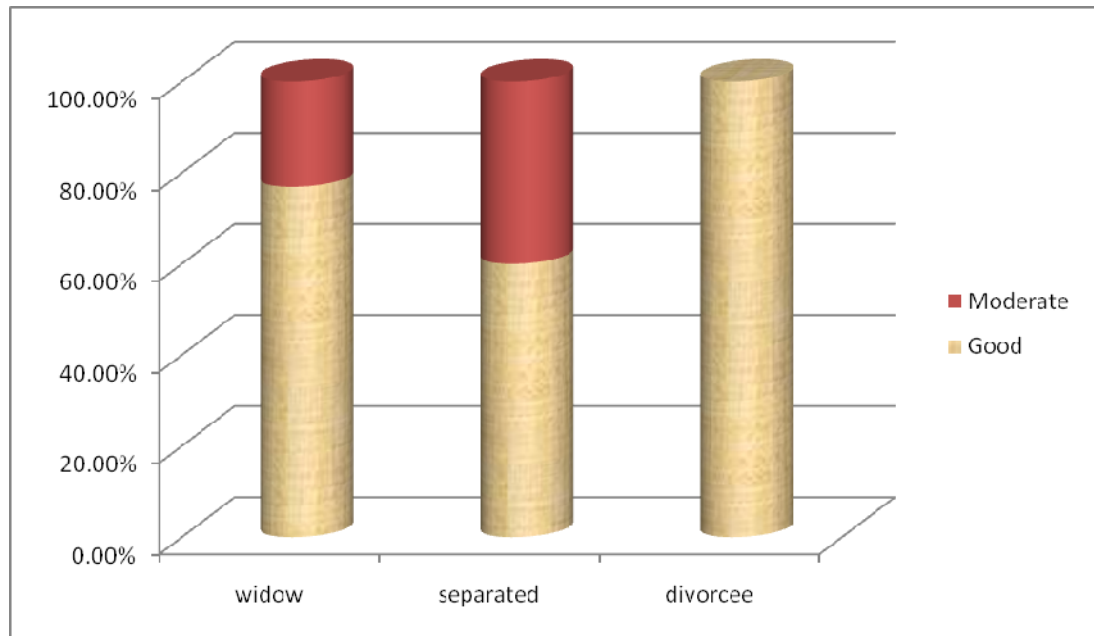
Figure 4.12



Respondents' age group exhibited significant ($p= 0.03$) improvement in mental health

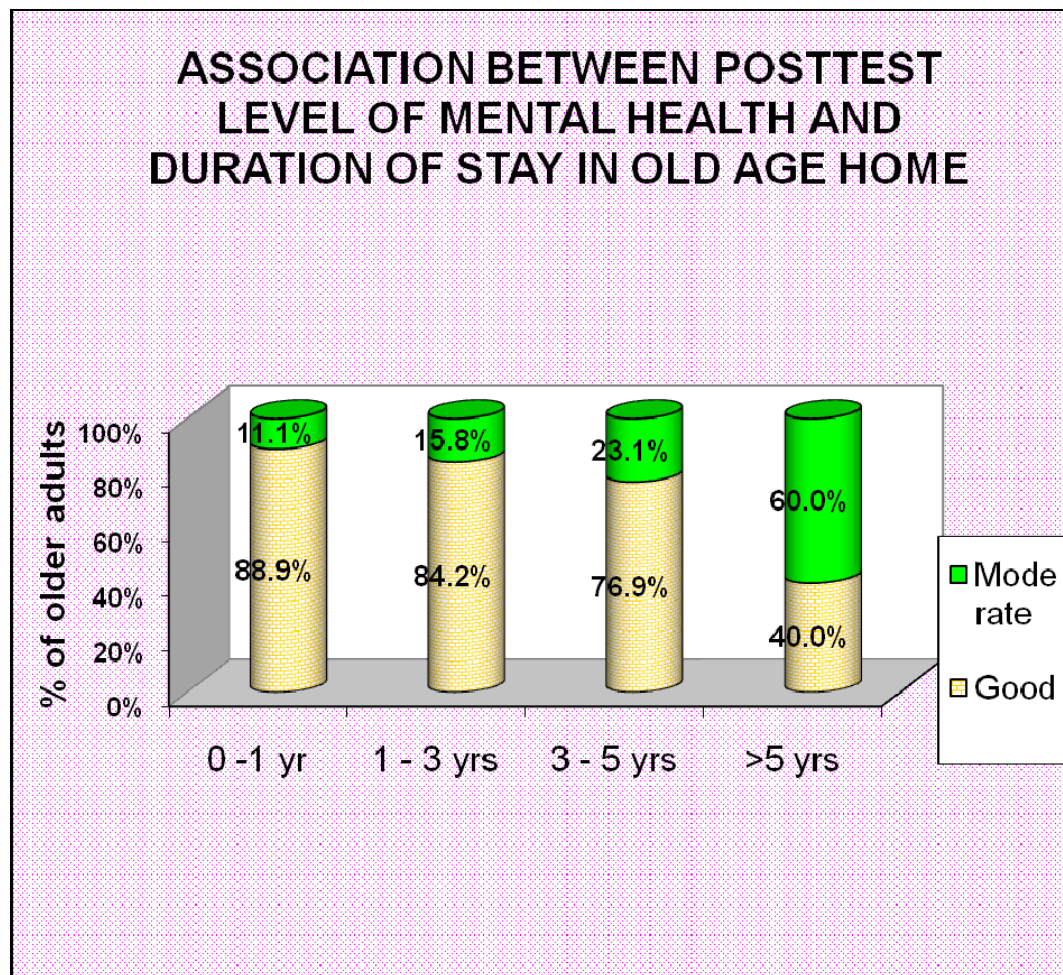
Figure 4.13

Association between posttest level of mental health and marital status



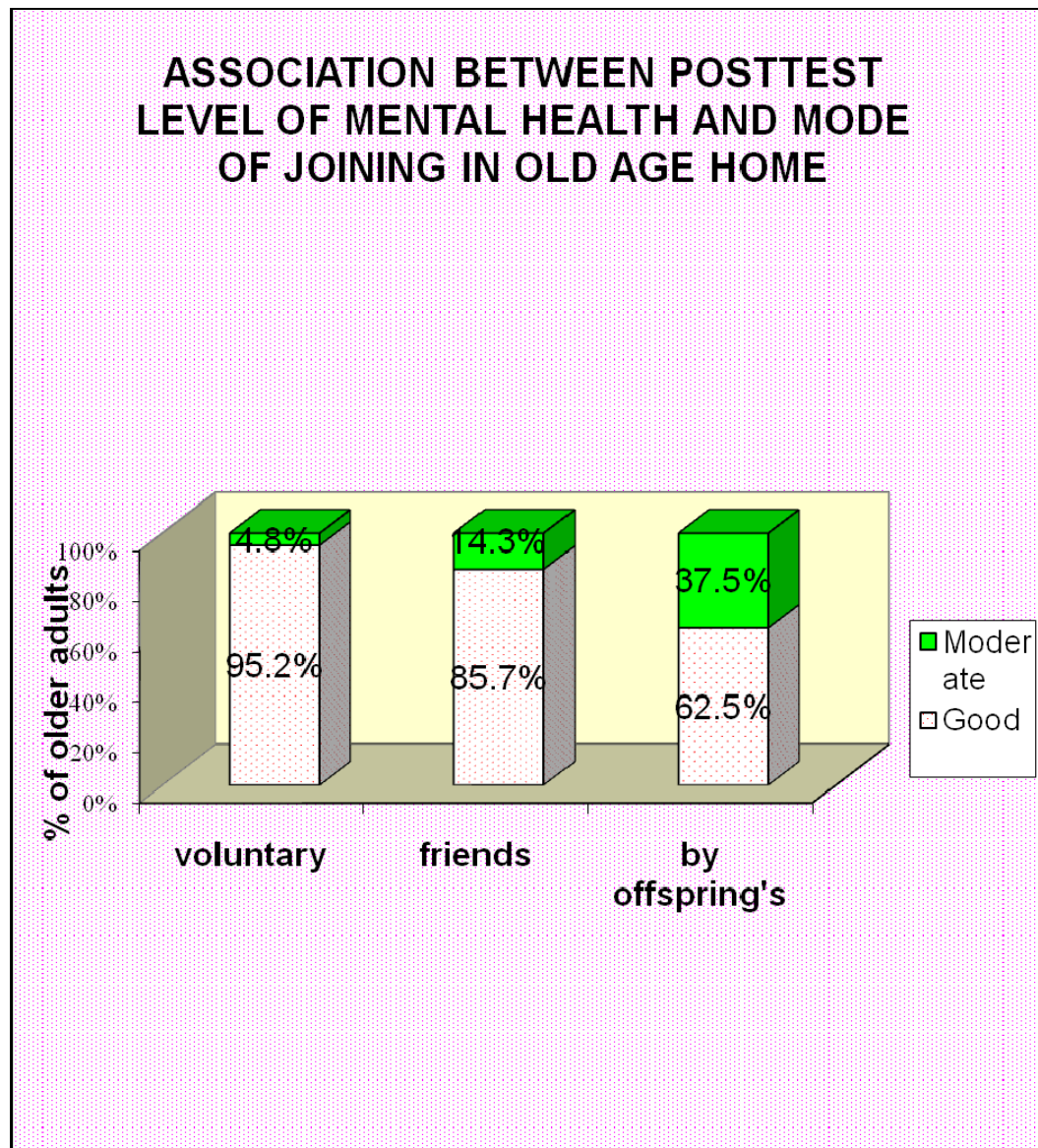
Respondents marital status showed a significant ($p= 0.02$) relationship in mental health of older adults

Figure 4.14



Duration of stay in old age home exhibited a significant ($p= 0.02$) influence on mental health of older adults.

Figure 4.15



Mode of joining the old age home showed significant at ($p= 0.01$) level on mental health of older adults.

CHAPTER V

DISCUSSION

This chapter deals with the detailed discussion on the findings of the study obtained from the statistical analysis.

Older adults are the assets of each and every family. But the youth of modern era are not interested in protecting them. They feel that elderly people are like obscene passion in this fast moving world. Many of the parents also are not able to tolerate the criticism shown by their own children after getting settled in their life.

The hopes of older adults on their off-springs are getting vanished day by day. This pushes the older adults to choose a place like old age home where they could spend their life amidst of loneliness thus deteriorating their mental health in spite of available varied recreational activities. Hence it becomes essential to know about the effectiveness of activity intervention on mental health of older adults. The study findings are discussed as per the objectives of the study.

Demographic variables of the older adults.

From the table no. 4.1 described the socio-demographic characteristics of the older adults residing in old age home.

Equal number of respondents (28.3%) belonged to the age group of either 65-70 years or 75-80 years. More than half of the respondents (56.7%) were males in gender. Majority of the respondents (53.3%) were Hindu by religion. With regard to educational status none of the participants were illiterate. All the respondents were married but none of them are living with their wives. More than half of the respondents (53.3%) were having two children. Almost equal numbers of participants were staying in old age home for either 1 year (30.0%) or 1-3 years (31.7%). More than half of the participants (53.3%) were left in the old age home by their off-

springs. Majority (31.7%) of the respondents were not interested in any of the recreational activities.

First objective: Assess the level of mental health of older adults before activity intervention

Table no.4.2 depicted the mental health of the older adults before activity intervention. Majority of the participants (61.7%) had moderate mental health score before activity intervention. This finding was consistent with the study done by **Roxanne C. et.al (2009)** who evaluated the effectiveness of activity schedule on mental health of older adults in residents home.

Participation in activities had shown significant improvement ($p=0.02$) in the mental health of older adults. As per the investigators experiences most of the older adults were spending their life in a solitude manner. But when given with the needed motivation and encouragement they participated in the scheduled activities enthusiastically which paved way to improve their mental health.

The second objective of the study was to assess the level of mental health of older adults after activity intervention

Table no.4.3 projected the post intervention mental health score of older adults. Majority of the respondents (76.7%) achieved good level of mental health after activity intervention. Similar findings were observed by the study done by **Edwin S.et.al., (2010)** in which activities like group discussion and working together to solve simple puzzles showed statistically significant improvement in socialization of the elderly.

Another study on activity intervention (**Neer L.et.al 2009**) revealed statistically significant improvement in elderly mental health after active involvement in activities like playing calculative games, arranging jumble words and listening to radio.

Yet another study which showed the effect of activity intervention on older adults' mental health was the study conducted by **Buno M.et.al (2008)** which assessed the implications of activities like gardening, growing a sapling in a pot, indoor games and exercises on mental health of the elderly. The study findings implicated these activities for elderly because of its significant effect on elderly peoples' mental health.

The investigator identified from the personal experience that many of the older adults were deeply wounded by being left alone by their own children. Also they missed their closeness with grandchildren. These feelings make them to lead an isolated life. By making them to ventilate their feelings and constant support older adults' mental health can be improved.

On analyzing third objective: Assess the effectiveness of activity intervention on level of mental health of older adults

From table no: 4.4, present study revealed the mean score of 15 before activity intervention which indicated the poor level of mental health. However in posttest their mean score was 5.32 which indicated improved level of mental health which is statistically significant ($p= 0.001^{**}$). These findings were in par with the study findings conducted by **Tuscaloose I et.al (2009)**, in which effect of activities on mental health was highly significant after activity intervention.

The fourth objective of the study was to associate the selected socio-demographic variables with mental health of older adults in old age home

As per the above objective the present study projected that age, marital status, duration of stay in old age home and mode of joining the old age home were significantly associated with the mental health of older adults (fig no:4.12 -4.15)

These findings were supported by the findings of **Hayes J. et.al (2008)** who compared the level of mental health among male and female white Americans senior

citizens after activity intervention in which age group, marital status and interested activities showed significant association with the mental health of older adults.

“The less privileged elderly need our love and care. Our little contribution to make their world healthier and happier” (Mother Theresa). It is clear that when the older adults are involved in family issues they feel easier to lead a happy life. When they are criticized or neglected even in simple family matters make them to feel degraded and depressed.

All they need is a single lovable wording and sharing of ideas with them. It is the responsibility of the youngsters to spend time with their lovable age old parents. It is not the matter of money but it is the matter of love, affection and caring. Old age is a stage of life, where one needs to learn certain things afresh and get hold of new skills, mind-sets and socialization norms

CHAPTER VI

SUMMARY, CONCLUSION, IMPLICATIONS, RECOMMENDATIONS

This chapter deals with the summary, conclusion, implication, recommendation and limitation of the study.

6.1 SUMMARY:

Home care services provided are essential for effective community care for elderly. But compared to general elderly population those who reside in old age home are more socially isolated and have high rate of disability and poor mental health. Lack of support, disability and chronic illness are poor prognostic factors pertaining to positive mental health of old age people receiving home care.

However activity treatment needs to be considered for three reasons. *Firstly*, poor mental health has serious consequences on quality of life of elderly. *Secondly*, poor mental health may limit their activity and *thirdly* assessing the need and effect on activities on mental health of older adults residing in old age home may help to identify the ways to improve their mental health. Hence the researcher decided on the present study titled “Assess the effectiveness of activity intervention on mental health of older adults residing in old age home”

The data was collected for a period of 4 weeks during September 2011. The collected data were analyzed by using the statistical means such as percentage, standard deviation, Pearson’s chi square test and student independent t- test. The study findings were discussed based on the objectives.

6.2 MAJOR FINDINGS OF THE STUDY:

6.2.1 Findings on the respondents' data

1. Equal number of respondents (28.3%) belonged to the age group of either 65-70 years or 75-80 years.
2. More than half of the respondents (56.7%) were males in gender.
3. Majority of the respondents (53.3%) were Hindu by religion.
4. With regard to educational status none of the participants were illiterate.
5. All the respondents were married but none of them are living with their wives. The older adults residing in old age home were divorced (23.3%), separated (33.3%) or widow/widower (43.4%)
6. More than half of the respondents (53.3%) were having two children.
7. Almost equal numbers of participants were staying in old age home for either 1 year (30.0%) or 1-3years (31.7%).
8. More than half of the participants (53.3%) were left in the old age home by their off-springs.
9. Majority (31.7%) of the respondents were not interested in any of the recreational activities.

6.2.2 Findings on the respondents' mental health before activity intervention

- ★ Before activity intervention the older adults participated in the study had shown either poor mental health (38.3%) or moderate mental health (61.7%). The mean score was 15.05 and standard deviation 1.55

6.2.3 Findings on the respondents' mental health after activity intervention

- ★ There was a considerable improvement in the level of mental health of older adults participated in this study.
- ★ After activity intervention the mental health of respondents improved to either good mental health (76.7%) or moderate mental health (23.3%)

- ★ No people demonstrated poor mental health after activity intervention.

6.2.4 Comparison of pretest and posttest level of mental health

- ★ The mean pre-test score was 15.07 and standard deviation =1.55.
- ★ The mean post-test score was 5.32 and standard deviation = 2.1
- ★ There was a significant association between pre-test and post-test mental health score ($p= 0.001$)

6.2.5 Findings on the effectiveness of activity intervention on mental health of older adults living in old age home.

- ★ The mean difference on mental health score was 9.75 and the percentage difference on mental health score was 48.7%. This percentage gain indicated the effectiveness of activity intervention

6.2.4 Findings on the association between selected socio-demographic variables and the level of mental health of older adults

Among the selected socio-demographic variable Age ($p=0.03$), Marital status ($p=0.02$), Duration of joining the old age home ($p=0.02$) and Mode of joining the old age home ($p=0.01$) had significant association with the mental health of the older adults.

6.3 CONCLUSION:

The study concluded that activity improves the level of mental health of elderly residing in old age home. Such activities are beneficial not only for improving the mental health of elderly but also to improve their quality of life and peaceful aging. The complete life, the perfect pattern, includes old age as well as youth and

maturity. The beauty of the morning and the radiance of noon are good, but it would be a very silly person who drew the curtains and turned on the light in order to shut out the tranquility of the evening. Old age has its pleasures, which, though different, are not less than the pleasures of youth

6.4 IMPLICATIONS OF THE STUDY:

The investigator had drawn the following implication for the study, which were vital concern in the field of nursing practice, nursing education, nursing administration and nursing research.

6.4.1 Implication For Nursing Practice:

- Caring and nurturing the older adults residing in old age home is essential because late life disorders of elderly were attributed to common abuse, neglect or lack of love on the part of their off-springs
- There was evidence that the system of family care and support to elderly was less reliable than claimed. Hence it has become imperative on the part of the community psychiatric nurses to help these individuals by keeping them busy through some activities which in-turn help the elderly to regain their physical, cognitive and emotional strengths.
- Nurses working with geriatrics in hospital and community should take active role to disseminate the importance of activities on elderly through education, role play and also by providing direct care.

6.4.2 Implication For Nursing education:

- Nurses working in geriatric centers and community centers can involve the care giver in conducting regular teaching programme on varied activities that can improve physical, mental and cognitive activities of elderly.
- Nurses can organize workshop on activities and elderly health improvement
- Nurses can also give suggestions to incorporate role of activities on elderly health in nursing curriculum
- Involvement of nursing students in activity intervention programme for elderly would create awareness of its effect.

6.4.3 Implication For Nursing research:

- Nurses need to attend more conferences regarding care older adults to acquire inquisitive knowledge.
- This research study can serve as stepping stone for all the various other studies in the future.
- Nursing researcher can encourage clinical nurse to apply the research findings in their daily nursing care activities and can bring about new techniques in improving the mental health of older adults.
- Dissemination of findings through conference, professional journals will make the application of research findings too effective on Evidence Based Practice.
- This study also brings about the fact that more studies needed to be conducted by including more activities not only in improving the mental health of older adults but also on physical, cognitive activities.
- Extensive research must be conducted in the area to identify the practice to promote and maintain mental health of older adults

6.4.4 Implications For Nursing administration:

- The administrator should give permission to do the various experimental studies to find out the effectiveness of activity intervention.
- The nurse administrator should prepare the standard protocol for activity intervention on mental health of older adults.
- The staff should be provided to attend the various In-service education program and Staff development program.
- Pamphlets, video and live demonstration regarding activity intervention on mental health of older adults should be exhibited to the public.

6.5 RECOMMENDATIONS:

The investigator recommended the nurses and nursing students to be included in preparing activity schedule for improving mental health of older adults living in various old age homes.

The study recommends the following suggestions for further research.

- Similar study can be done by other activities with large samples.
- Similar study can be conducted in geriatric ward.
- A true experimental study can be conducted to assess the effectiveness of activity intervention on mental health of older adults
- A comparative study can be done to assess the effectiveness of activity intervention on mental health of older adults living in old age home and among those living with family
- Similar study can be conducted after incorporating the nursing assistance.

- A similar study can be done by increasing time duration and sections of as activity intervention

6.6 Merits of the study

- Studies which examine the impact of activity intervention on mental health of older adults are very rare in Indian literature.
- Old age people falls in vulnerable group who should be taken care with utmost interest and dedication

6.6 Limitations

- The findings of the study cannot be generalized due to small number of samples
- Study was limited to assess only the mental health status of older adults
- The study period was restricted to four weeks

BIBLIOGRAPHY

BOOKS

1. Abdullah and Levine, "Better patient care through nursing research", Mac Millan Company, 6th edition, Pp : 99 – 105, 1985.
2. Annette G. Luckenotte (1996), "Gerontological Nursing", Philadelphia, Mosby year book publications.
3. Barbara Fadem, "High yield psychiatry", Lippincott willams and willkers, 2nd edition, Pp : 56-60, 2003.
4. Bellack Alan S, "Hand book of behaviour therapy in psychiatric setting", Plenum press, New York, London, Pp : 269 – 280, 1993.
5. Bellack, Alan S and Herson Michel, "Dictionary of behavioural technique and therapy", Paragons press, New York, 1985.
6. Bhatia M.S, "A Concise text book of psychiatric nursing", C.B.S publishers and distributors, Delhi reprint, Pp : 180, 1977.
7. Butler J and Richard, " Behaviour and Rehabilitation ", Bristol, John Wright and Sons Ltd, Pp : 68-90, 1978.
8. Dunton Ruth William, "Occupational therapy principles and practice", Licht Sidney, U.S.A, 2nd edition, Pp : 177 – 180, 1957.
9. Fine, A. (ed.) (2006) "Handbook on physical activity I-Assisted Therapy: Theoretical Foundations and Guidelines for Practice", (2nd ed.), San Diego,CA: Academic Publications, Pp :102 - 110.
10. Fontaine and Fletcher, "Mental Health Nursing", Addison – Werley, Longman, 4th edition, Pp : 283-296, 1999.
11. Helen C. Anderson et al. (1971), "Geriatric Nursing", The C.V Mosby company, 5th Edition.
12. Irvin R.E. (1998), "The Older Patients", New York, Hodder and Stoughtan publishers, 3rd Edition.
13. Jennie Kay et al. (1989), "Nursing Care for the Aged", Appleton Lang publications, USA.
14. Jennie Keith (1985), "Old people as People", Little Brown and company publishers, USA.

15. Kaplan ,et al., “Comprehensive text book of psychiatry“, Volume – 1, Williams and Wilkins, Hongkon, London, 8th edition, Pp : 699 – 705, 1995.
16. Kessler H, Henry, “The principles and practice of rehabilitation“, Lea and Fabiger, Philadelphia, Pp : 14-18, 1982.
17. Kothari C.R, “Research methodology, methods and Techniques“, Wishwa Prakashan, New Delhi, Pp : 51-55, 1997.
18. Liberman Paul Robert, “Psychiatric rehabilitation of chronic mental patient’s“, United States of America, First edition , Pp : 147 – 160,1984.
19. Macdonald E.M, “Occupational therapy in Rehabilitation“, Brailiere Tindall, London, 4th edition , Pp : 307 – 310, 1976.
20. Martha and Luis, “Rating Scale in mental health“, Jaypee brothers, New Delhi, 2nd edition, Pp : 162-169, 2001.
21. Mary C Townsend, “Essentials of Psychiatric / Mental Health Nursing“, Dams Company – Philadelphia, 5th edition, Pp : 341, 344, 1998.
22. Polit D and Hungler B, “Nursing research principles and methods“, J.B. Lippincott co, New York, Pp : 210 – 215, 1978.
23. Reker T, Eikelman B, “Work therapy for Schizophrenic patient“, European Archives of psychiatry clinical neuroscience, Vol 247 (6), Pp : 314 – 319, 1997.
24. Rusk A, Howard, “Rehabilitation medicine the philosophy and need of rehabilitation“, The C.V. Mosby company, 4th edition , Pp : 1-10, 1977.
25. Sally J. Redfern (1991), “Nursing Elderly People“, Churchil Livingstone publishers, UK.
26. Stuart and Sunden, “Principles and practice of psychiatric nursing“, Mosby year book Inc, St. Louis, Missouri, 4th edition, Pp : 316-318,1995.
27. Tasman, “Psychiatry“, John wily and sons, Ltd, 2nd edition, Pp : 1131- 1182, 2003.
28. Vogel R, Bell V, Bluementhal, Newmann, “Work and psychiatric illness“, Eur-Arch-Psychiatry- Neurology-science, Vol 238(4), Pp : 213-219, 1989.
29. Wallace C.J, “Psychiatric Rehabilitation“, Psycho pharmacology Bulletin, Volume 29(4), Pp : 537-548, 1993.
30. Wilson Moya, “Occupational therapy on short psychiatry“, Churchill living stone Edinburgh, London and New York, 2nd edition, Pp : 246 –257, 1988.

JOURNALS

1. Ashworth NL, Chad KE, Harrison EL, Reeder BA, Marshall SC. Home versus center based physical activity programs in older adults. *Cochrane Database Syst Rev*. 2005; CD004017.
2. Barnes PM, Schoenborn CA. Physical Activity Among older Adults: United States, 2000. Advance data from vital and health statistics; No. 333. Hyattsville, Md: National Center for Health Statistics; 2003.
3. Blamey A, Mutrie N. Changing the individual to promote health-enhancing physical activity: the difficulties of producing evidence and translating it into practice. *J Sports Sci*. 2004; 22: 741–754
4. Breslow RA, Ballard-Barbash R, Munoz K, Graubard BI. Long-term recreational physical activity and breast cancer among old age women in the National Health and Nutrition Examination Survey I epidemiologic follow-up study. *Cancer Epidemiol Biomarkers Prev*. 2001; 10: 805–808
5. Brosse AL, Sheets ES, Lett HS, Blumenthal JA. Exercise and the treatment of clinical depression in older adults: recent findings and future directions. *Sports Med*. 2002; 32: 741–760
6. Cavill N, Biddle S, Sallis JF. Health enhancing physical activity for old age people: statement of the United Kingdom Expert Consensus conference. *Pediatr Exerc Sci*. 2001; 13: 12–25.
7. Corbin CB, Pangrazi RP. Physical Activity for elderly people A Statement of Guidelines. Reston, Va: National Association for Sport and Physical Education; 1999.
8. Conn VS, Minor MA, Burks KJ, Rantz MJ, Pomeroy SH. Integrative review of physical activity intervention research with aging adults. *J Am Geriatr Soc*. 2003; 51: 1159–1168.
9. Conn VS, Valentine JC, Cooper HM. Interventions to increase physical activity among aging adults: a meta-analysis. *Ann Behav Med*. 2002; 24: 190–200.
10. Cyarto EV, Moorhead GE, Brown WJ. Updating the evidence relating to physical activity intervention studies in older people. *J Sci Med Sport*. 2004; 7 (suppl): 30–38.

11. Dietary Guidelines Advisory Committee. Dietary Guidelines for old age white Americans, 2000. Washington, DC: US Dept of Health and Human Services and US Dept of Agriculture; 2000.
12. Dishman RK, Buckworth J. Increasing physical activity: a quantitative synthesis. *Med Sci Sports Exerc.* 1996; 28: 706–719.
13. Fletcher GF, Balady G, Froelicher VF, Hartley LH, Haskell WL, Pollock ML; Writing Group. Exercise standards for elderly people: a statement for healthcare professionals from the American Heart Association. *Circulation.* 1995; 91: 580–615.
14. Hillsdon M, Foster C, Thorogood M. Interventions for promoting physical activity. *Cochrane Database Syst Rev.* Jan 25, 2005; CD003180.
15. Increasing physical activity: a report on recommendations of the Task Force on Community Preventive Services. *MMWR Recomm Rep.* 2001; 50: 1–14.
16. Kahn EB, Ramsey LT, Brownson RC, Heath GW, Howze EH, Powell KE, Stone EJ, Rajab MW, Corso P. The effectiveness of interventions to increase physical activity: a systematic review. *Am J Prev Med.* 2002; 22: 73–107.
17. King AC. Interventions to promote physical activity by older adults. *J Gerontol A Biol Sci Med Sci.* 2001; 56 Spec No 2: 36–46.
18. Knowler WC, Barrett-Connor E, Fowler SE, Hamman RF, Lachin JM, Walker EA, Nathan DM; Diabetes Prevention Program Research Group in elderly adults. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *N Engl J Med.* 2002; 346: 393–403.
19. Lee IM, Skerrett PJ. Physical activity and all-cause mortality for older adults: what is the dose-response relation? *Med Sci Sports Exerc.* 2001; 33 (suppl): S459–S471
20. Mokdad AH, Giles WH, Bowman BA, Mensah GA, Ford ES, Smith SM, Marks JS. Changes in health behaviors among older Americans, 1990 to 2000. *Public Health Rep.* 2004; 119: 356–361.
21. Pate RR, Pratt M, Physical activity and public health: a recommendation from the Centers for Disease Control and Prevention and the American College of Sports Medicine. *JAMA.* 1995; 273: 402–407.
22. Riddoch C. Relationships between physical activity and health in old age people. Young and Active? Old age people and Health-Enhanced Physical

Activity: Evidence and Implications. London, UK: Health Education Authority; 1998: 17–48.

23. Slattery ML, Potter JD. Physical activity and prevention of colon cancer among elderly: confounding or interaction? *Med Sci Sports Exerc.* 2002; 34: 913–919.
24. Task Force on Community Preventive Services. Recommendations to increase physical activity in communities. *Am J Prev Med.* 2001; 22 (suppl): 67–72.
25. US Dept of Health and Human Services and US Dept of Agriculture. Dietary Guidelines for older Americans, 2005. 6th ed. Washington, DC: US Government Printing Office; 2005.
26. US Dept of Health and Human Services. Healthy elderly People 2010. Vol. 2. 2nd ed. Washington, DC: US Dept of Health and Human Services, Office of Disease Prevention and Health Promotion; 2000
27. US Dept of Health and Human Services. Physical Activity & old age people mental Health: National Center for Chronic Disease Prevention and Health Promotion; 1996.
28. Van der Bij AK, Laurant MG, Wensing M. Effectiveness of physical activity interventions for older adults: a review. *Am J Prev Med.* 2002; 22: 120–133.
29. Vuori IM. Health benefits of physical activity with special reference to interaction with diet among old age people. *Public Health Nutr.* 2001; 4: 517–528.
30. Williams L, et al., “Behaviour Therapy Nursing A new Era “, *NursingTimes*, Vol 82, No-1, Pp : 48-49, 1996.
31. Wing RR, Hill JO. Successful weight loss maintenance to enhance physical fitness among old age people. *Annu Rev Nutr.* 2001; 21: 323–341.
32. Wykes et al., “Effects on the brain of a psychological treatment :Cognitive remediation therapy“, *British Journal of psychiatry*, vol 24, Pp :134 – 147, 2002.
33. Zhang M, Yan H, “ Community – based psychiatry rehabilitation “,*British Journal of Psychiatry*, Vol 2, Pp : 90-100, 1999.

NET REFERENCE

1. <http://www.newsday.com/>.
2. <http://www.redcross.org/news/ds/0109wtc/gardening.htm>
3. <http://www.olderpeople.com/therapytext.htm> .
4. <http://www.tdi-dog.org/disaster.htm> .
5. www.helpguide.org/mental/health_elderly.htm
6. www.healthyplace.com/mentalbehavior/elderly/depression...
7. www.nlm.nih.gov/medlineplus/ency/article/001521.htm
8. www.sciencedaily.com/releases/2009/12/091217115828.htm
9. www.indianjpsychiatry.org/cpg/cpg2007/CPG-GtiPsy_10.pdf
10. www.umm.edu › Medical Reference ›
11. www.medicinenet.com › ... › depression
12. www.holisticonline.com/
13. [en.wikipedia.org/wiki/activity-assisted therapy](http://en.wikipedia.org/wiki/activity-assisted_therapy)
14. www.mindsandsouls.org/alternate-therapy
15. www.autismindia.com/article14.htm
16. www.essortment.com › Home & Garden
17. www.sniksnak.com/therapy.html
18. www.sciencedaily.com/releases/2009/11/091116131824.htm
19. www.healthline.com/galecontent/activity
20. www.alternateheals.com/ -

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Questionnaire - Tool

The questions given below are prepared to assess the knowledge about your-self. Hence you are asked to answer the questions after reading it carefully. Your answers and your details will be protected secretly. Further we assure that these answers will be used only for research purpose.

Socio Demographic Variables

Name:

Sample No:

1. Age

- a. 60-65yrs
- b. 65-70yrs
- c. 70-75yrs
- d. 75- 80yrs

☐

2. sex

- a. Male
- b. Female

☐

3. Religion

- a. hindhu
- b. muslim
- c. christian

☐

4. Educational qualification

- a. illiterate
- b. primary
- c. secondary
- d. higher secondary
- e. graduate

☐

4. Marital status

- a. unmarried
- b. If married
 - 1. widow/widower
 - 2. Separated
 - 3. Divorcee

☐

6. No.of children

- a. 1
- b. 2
- c. above 2

☐

7. Duration of stay in the old age home

- a. 0-1yr
- b. 1-3yrs
- c. 3-5yrs
- d. > 5yrs

☐

8. Mode of joining the old age home

- a. by offspring's
- b. voluntary
- c. friends
- d. others

☐

9. Recreational activity interested

- a. gardening
- b. visiting temple
- c. chatting with others
- d. not interested

☐

Self Reporting Questionnaire

NO	Questions	Yes	No
1.	Do you often have headaches		
2.	Is your appetite poor		
3.	Do you sleep badly		
4.	Are you easily frightened		
5.	Do your hands shake		
6.	Do you feel nervous, tense or worried		
7.	Is your digestion poor		
8.	Do you have trouble thinking clearly		
9.	Do you feel unhappy		
10.	Do you cry more than usual		
11.	Do you find it difficult to enjoy your daily activities		
12.	Do you find it difficult to make decisions		
13.	Is your daily work suffering		
14.	Are you unable to play a useful part in life		
15.	Have you lost interest in things		
16.	Do you feel you are a worthless person		
17.	Has the thought of ending your life been on your mind		
18.	Do you feel tired all the time		
19.	Do you have uncomfortable feelings in your stomach		
20.	Are you easily tired		

fhNy[;Mg; eu;rpq;
nkl;uh]; nkbf;fy; fhNy[;
nrd;id-03

fPNo nfhLf;fg;gl;Ls;s tpdhf;fs; %yk; jq;fisg;gw;wpAk; jq;fspd;
kdepiyiag;gw;wpAk; mwpe;J nfhs;s tpUk;Gfpd;Nwd;. vdNt jhq;fs;
fPo;f;fhZk; tpdhf;fis ed;F gbj;jgpd;G mjw;Fhpa gjpy;fis Fwpg;gplTk;.
cq;fs; gjpy;fSk; cq;fisg;gw;wpa tptuq;fSk; kpfTk; ufrpakhf
ghJfhf;fg;gLk;. ,J Ma;tpw;F kl;LNk gad;gLj;jg;gLk; vd;W cWjp
mspf;fpd;Nwd;
rKjhaf;fhuzpfs;
thpir vz;;

1. jq;fspd; taJ
m) 60-65
M) 66-70
,) 71-75
<) 75-80

()

2. ghypdk;
m) Mz;
M) ngz;

()

3. kjk;
m) ,e;J
M) K];ypk;
,) fpwpj;Jtk;
)

(

- 4.fy;tpj;jFjp
m) gbg;gwptw;wth;fs;
M) Muk;gf;fy;tp
,) Nky; epiyf;fy;tp
<) cah;epiyf;fy;tp
c) gl;ljhpf;fs;

()

5. jpUkzj;jFjp
m) kzkhfhjth;;
M) kzkhdt;fs; vdpj;
1. kidtp/ fztUld; ,Uggth;
2. tpjit
3. jdpj;J tho;gth;
4. tpthfuj;jhdt;
)

(

6. Foe;jfspd; vz;zpf;if
m) xd;W
M) ,uz;L

,) ,uz;bw;Fk; Nky;
) (

7. KjpNahh; ,y;yj;jpy; trpf;Fk; tUlq;fs;
m) 0-2 tUlq;fs;
M) 2-4 tUlq;fs;
,) 4-6 tUlq;fs
<) 6 tUlq;fSf;Fk;; Nky;
) (

8. KjpNahh; ,y;yj;jpy; ,ize;j Kiw
m) ngw;w gps;isfshy;
M) nrhe;j tpUg;gj;jpdhy;
,) ez;gh;fs; %yk;
<) kw;wit
) (

9. gpbj;j nghOJ Nghf;F tp\aq;fs;
m) Njhl;lf;fiy
M) NfhtpYf;F nry;Yjy;
,) kw;wth;fSld; mul;il
<) vJTk; ,y;iy
()

jhNd gjpyspf;Fk; tpdhj;njhFg;G

t.vz;	tpdhf;fs;	Mk;	,y;iy
1.	mbf;fb cq;fSf;F jiytyp Vw;gLtJz;lh?		
2.	cq;fSf;F grpapd;ik ,Uf;fpwjh?		
3.	cq;fSf;F cwf;fkpd;ik ,Uf;fpwjh?		
4.	ePq;fs; vspjhf mr;rg;gLgtuh?		
5.	ePq;fs; vspjpy; mjph;r;rp kd mOj;jk; ftiyf;F Ml;gLgtuh?		
6.	cq;fs; iffs; eLq;FtJz;lh?		
7.	cq;fSf;F nrhpkhdk; rhpapy;iyah?		
8.	njspthf rpe;jpg;gjpy; Fog;gk; miltJz;lh?		
9.	kfpo;r;rpaw;w epiyapy; ,Ug;gjhf czh;fpwPh;fsh?		
10.	,ay;ig tpl mjpfkf rj;jk; NghLtJz;lh?		
11.	cq;fsJ md;whl nray;ghLfspy; kfpo;r;rpAld; nray;gLfpwPh;fsh?		
12.	xU KbT vLg;gjw;F fbdkhf cs;sjh?		
13.	cq;fsJ md;whl gzpfs; ghjpf;fg;gLfpwjh?		
14.	tho;f;ifapy; gads;s nray;ghLfspy; <Lgl rf;jpaw;wtuhf ,Uf;fpwPh;fsh?		
15.	nghUl;fspy; tpUg;gj;ij ,oe;Js;sPh;fsh?		
16.	vjw;Fk; jFjpaw;wtuhf jq;fis fUJfpwPh;fsh?		
17.	jw;nfhyy vz;z;Njhd;wpaJz;lh?		
18.	vg;nghOJk; fisg;ghf cs;sjhf czUfpwPh;fsh?		
19.	tapw;wpy; tpj;jpahrkhd czh;tpid czUfpwPh;fsh?		
20.	ePq;fs; vspjhf fisg;gilfpwPh;fsh?		